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Piggyback problem solver: **portable ramp** for light traffic areas . . . . . p. 31

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Detectors spot bad wheels in motion . . . p. 23

Why not weight-distance rates? . . . p. 34

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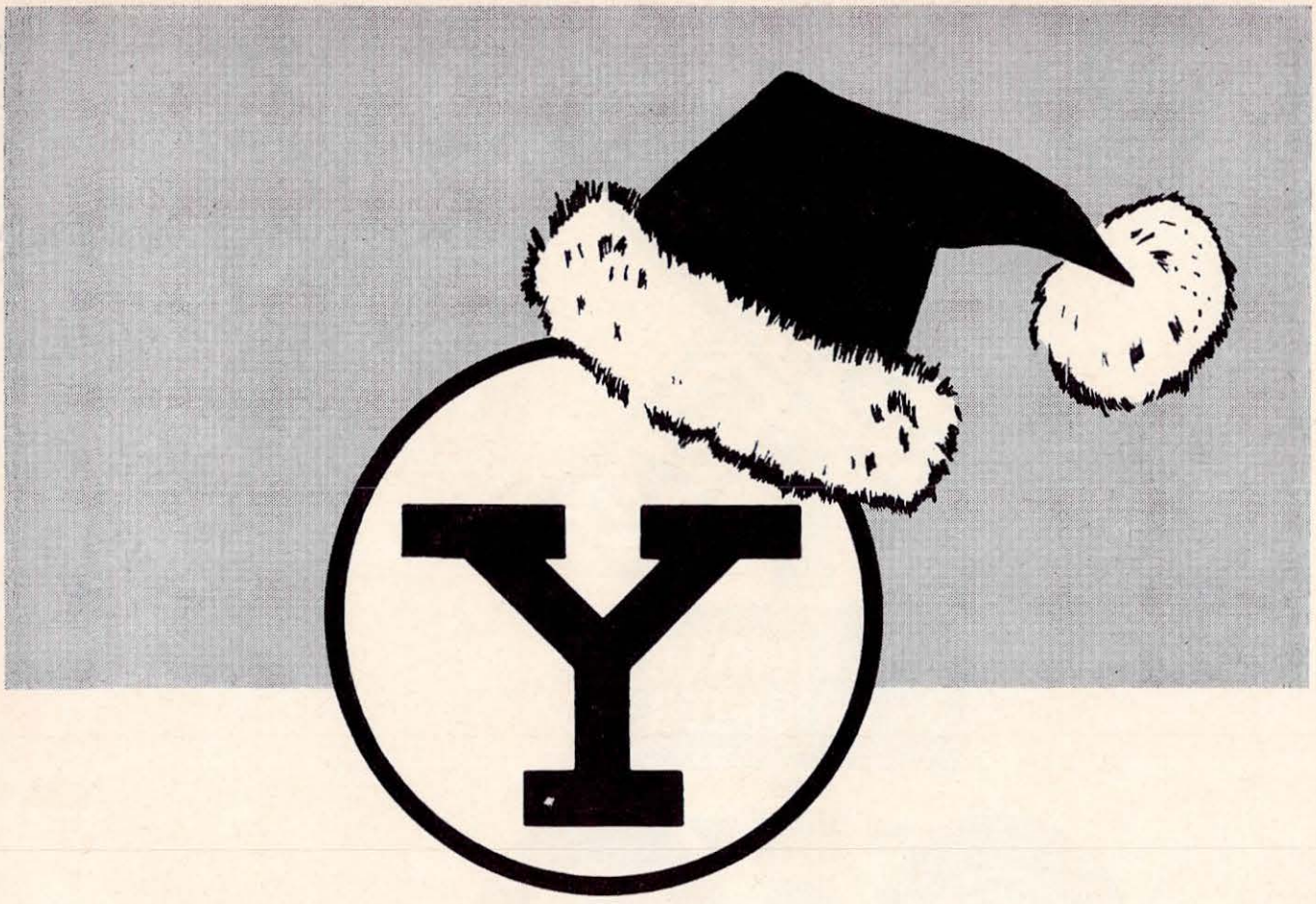

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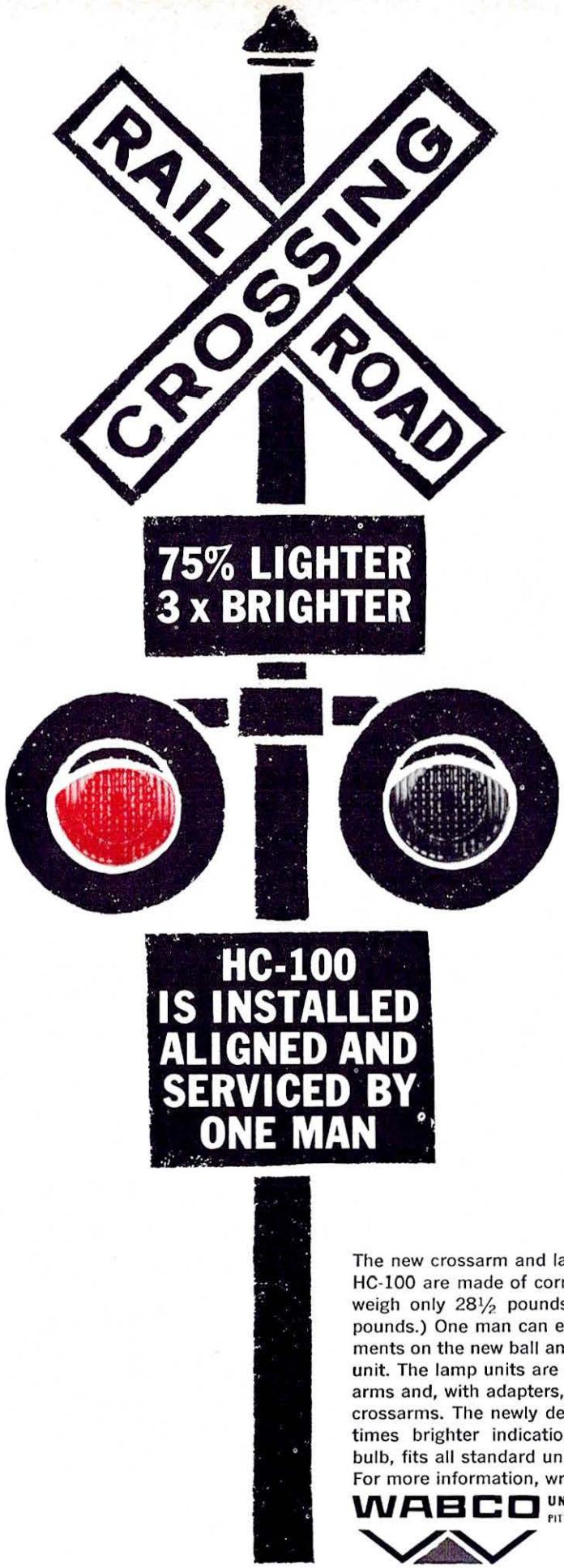

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RAILWAY AGE WEEK AT A GLANCE

December 16, 1963 • Vol. 155, No. 24

Ops shaping strategy for rules battle

Plans for a two-pronged attack on the award of the work-rules arbitration board have been formulated by four operating unions. The immediate goal: a restraining order p.9

Next year's waterway battles

The taxpayer-soaking myth that barges offer the cheapest kind of surface transportation is going to get a lot of public exposure in 1964—an election year p.16

How MP keeps track of special cars

The Missouri Pacific has opened a control center designed to keep round-the-clock watch on its expensive specialized freight cars and thus improve their utilization p.21

Bad wheels spotted in motion

Wheel Checkers, automatic detectors of such things as broken wheel flanges, are usually installed in yards. B&O is pioneering six installations on its main tracks p.23

L&N uses portable ramp for piggyback

A portable ramp for points where traffic is too light to justify permanent installation for loading or unloading TOFC shipments is in service on the Louisville & Nashville p.31

Weight-distance rates are urged

Here's a thought-provoking proposal for winning tonnage back from private trucks by establishing weight-distance rates on freight not now moving by rail p.34

Steel makers see bigger car market

The trend toward larger and more specialized freight cars and the increased use of 'exotic' metals have steel producers optimistic over the future rail market p.44

The Action Page: Sell the TVA—well, why not?

If it seems unjust that taxpayers from other areas help pay electricity bills for Tennessee Valley consumers, just take a look at the inequities in transportation p.50

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RAILWAY AGE WEEK AT A GLANCE

Short and Significant

Railroad capital expenditures for 1964 . . .

will get under way on a level about 25% higher than those of 1962. Commerce Department figures put the prospective first-quarter outlays at $260 million, up from $210 million.

C&O's control of B&O . . .

has been cleared by the U.S. Supreme Court. It upheld the district court at Detroit which refused to upset the ICC decision. Unions were the losers; Justice Department withdrew.

1963 freight-car orders . . .

are now well past the 50,000 mark, with December reports still not in. One reason for the upsurge: new, higher per-diem rates scheduled to become effective Jan. 1.

Another big Chicago show . . .

similar to the American Railway Progress Exposition is a likely prospect for 1967. Representatives of ARPE's sponsors are recommending participation by their organizations.

Briefs are to be filed this week . . .

in Union Pacific's suit against C&NW and a group of Rock Island shareholders in connection with their efforts to block a proposed UP-RI merger.

Rail-transit expansion . . .

in the NewYork metropolitan area could involve an expenditure of $1 billion over the next 15 years, according to a Regional Plan Association survey due to be released this week.

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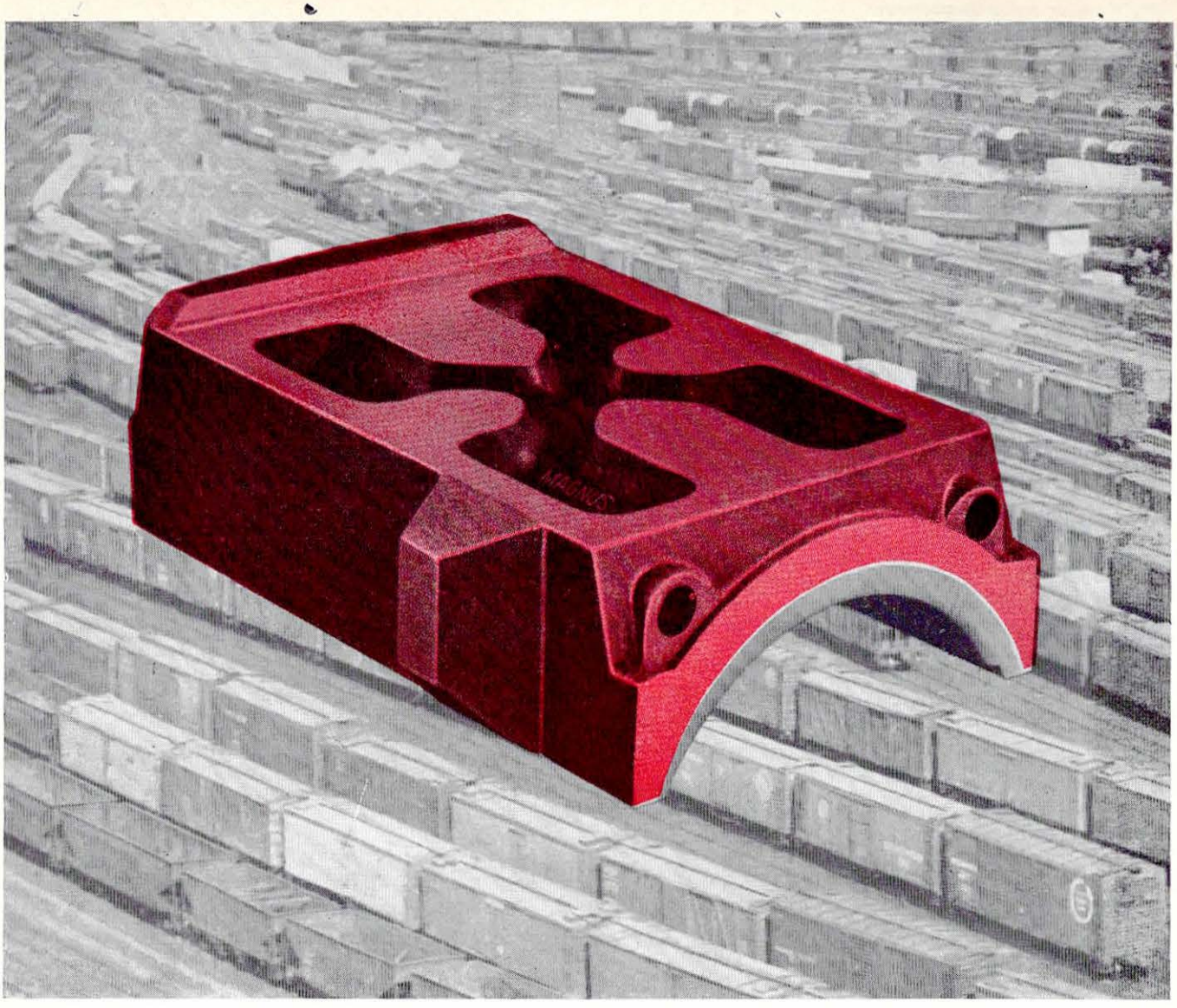
Current Statistics

Operating revenue	
9 mos., 1963	7,112,903,900
9 mos., 1962	7,035,741,972
Operating expenses	
9 mos., 1963	5,558,102,325
9 mos., 1962	5,544,684,269
Taxes	
9 mos., 1963	686,423,906
9 mos., 1962	754,915,131
Net railway operating income	
9 mos., 1963	556,898,952
9 mos., 1962	446,413,493
Net income, estimated	
9 mos., 1963	426,000,000
9 mos., 1962	313,000,000

Carloadings revenue freight	
49 wks., 1963	27,453,180
49 wks., 1962	27,352,177
Freight cars on order	
Nov. 1, 1963	22,196
Nov. 1, 1962	12,159
Freight cars delivered	
10 mos., 1963	36,616
10 mos., 1962	32,451
Serviceable cars	
Nov. 1, 1963	1,412,778
Nov. 1, 1962	1,432,235
Cars awaiting repairs	
Nov. 1, 1963	108,055
Nov. 1, 1962	131,055



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RAILWAY AGE WEEKLY
DECEMBER 16, 1963

Ops shaping strategy for rules battle

Four of the operating brotherhoods are going back to court to challenge the award of the work-rules arbitration board on two fronts. The unions want a preliminary restraining order—pending hearing—to prevent the award from going into effect next month, thus barring the carriers from making any work changes.

As a member of the Engineers' rules committee put it, "We can't seem to win for losing."

But, repeated losses notwithstanding, the operating brotherhoods—four of them, at least—are going to try again, in an arena where they've met bitter defeat several times before: the courts.

● **Double attack.** Not one but two challenges have been filed against the award of the work-rules arbitration board. The Engineers are asking U.S. District Court to impeach and vacate the award; the Firemen, Trainmen and Switchmen are calling for the same move, plus a court ruling that the law setting up arbitration of the dispute is unconstitutional, and the Conductors have packed up and departed the struggle, in the first open break in the ops' solidarity.

The suit filed by the BLF&E, BRT and SUNA follows a predictable course—charging that the arbitration board didn't conform to the substantive requirements of the law, that it didn't conform with or confine itself to the areas specified in the law and that it went outside the jurisdiction and authority conferred on it by the law.

● **Engineers left out?** The BLE case makes many of the same points—but with a twist. The Engineers contend that the award "proposes illegal redelegation of statutory responsibility and authority and flagrantly interferes with the right of the employees to bargain collectively through the representatives of their own choosing." What that means, simply, is that the Engineers—who were not directly represented on the board—think the craft with the biggest interest, from a work standpoint, in removal of the firemen has been shut off from any voice in the matter.

The award, BLE attorneys declare, "arbitrarily, unjustly, prejudicially and illegally attempts to re-delegate statutory obligation and authority vested in Arbitration Board 282 for the due consideration of safety, undue work burden and adequate safe transportation service. . . . This re-delegation is to private parties"—the carriers and the representatives of firemen—"to the complete and total exclusion of the duly designated representatives of the locomotive engineers."

● **BLE 'disenfranchised.'** As the BLE sees it, "the employees who have the most interest in the consequences of the removal of firemen-helpers and other employees from various types of runs and assignments are disenfranchised by the award from participating in any process leading to the determination of the effect of the removal . . . upon safety, efficiency and burden of work. Under the award, the duly designated representative of the locomotive engineers is ousted from the statutory right and obligation to represent this craft in this important area of working conditions."

Both suits ask the court—U.S. District Court for the District of Columbia—to enter a preliminary restraining order, pending hearing, to prevent the award from going into effect as scheduled late next month and thus to bar the carriers from making changes to implement the board's decision.

● **Familiar strategy.** In the event the brotherhoods' pleas are rejected by the court, most observers think it likely that the ops will try for a restraining order pending appeal—the same strategy they followed earlier in the dispute when they took the case to the U.S. Supreme Court and lost at every step of the way.

In the previous case, the carriers were barred from making changes while the appeals were heard—largely on grounds that the ops would suffer "irreparable damage" if the railroads were freed to make the desired changes. This time, however, there are somewhat different aspects—ones which may make it more difficult for the unions to produce any kind of "irreparable damage" showing.

● **Changes—and changes.** By the terms of the award, changes immediately possible would affect only a few employees—whereas the changes involved in the previous litigation could conceivably have affected a sizeable number of firemen and, perhaps, trainmen at the outset.

While four of the unions were set to try for an upset of the award—or at least for another delay—the Conductors were having no part of it. Their contention: The award wouldn't really affect many of the employees represented by the ORC&B—and they'd prefer working out an individual settle-

WATCHING WASHINGTON WITH WALTER TAFT

TAFT

• **AIR CARRIERS** of the so-called regularly-scheduled domestic group now operate nearly 25% more passenger-service route miles than Class I railroads. Latest figures (for 1962), compiled by the ICC's Bureau of Transport Economics and Statistics, show that the passenger-service routes of these certificated air lines totaled more than 105,000 miles, compared with the railroads' 86,000 miles. Only four years earlier, in 1959, the rail routes were longer—99,989 miles compared with 96,655 miles.. The ICC Bureau's figures go back to 1939, when the rail routes totaled more than 172,000 miles, compared with only 36,654 miles for the air lines. The last railroad figure above 100,000 miles was 1958's 106,439. The air carriers first crossed this 100,000-mile line—on their way up—with 1961's 104,761 miles.

A MAJOR FACTOR in the growth of air-line route mileage, of course, has been the great expansion of the high-frequency Federal Airways System. As of the end of last year, this system served 126,235 route miles, an increase of more than 100% in 10 years. While the fare tax (repealed on rail, bus and boat fares) is still paid by air travelers as a "user charge," it yields far less than the cost to the government of providing, maintaining and operating these signaling facilities for the air lines.

AIR-CARRIER PASSENGER REVENUES now amount to more than four times the railroads' non-commutation revenue. The 1962 figures were $2.2 billion, compared with $492 million. Revenues of the intercity bus lines, at $459 million, were getting closer to the railroad total. Meanwhile, the railroads also collected $619 million in 1962 revenue from commutation service.

AIR-LINE FARES for first-class travel, as measured by revenue per passenger mile, are still substantially above rail fares for travel in sleeping and parlor cars. The 1962 averages were 7.57 cents for first-class air travel and 3.97 cents for rail travel.

MUCH OF THE AIR TRAVEL, however, is now air-coach business, on which the latest figures indicate a yield of 5.76 cents per passenger-mile. The railroads' 3.97 cents could get pretty close to that with the addition of charges for space in sleepers and parlor cars.

BUS FARES remain lowest of all. They yielded an average of 2.72 cents per passenger-mile in 1962—less than half the cost of first-class air or rail travel. The bus average, however, was only 1.7 mills less than the 2.89 cents per passenger-mile reported as the average for rail coach business other than commutation.

• **THE AAR'S QUARTERLY PRICE INDEX** for this year's third quarter was at its lowest point in five years. It was 100, or par, which is the average of spot prices of the 1957-1959 period. That's the lowest index since 99.3 was reported for October 1958, that year's third-quarter figure.

LOWER FUEL PRICES were principally responsible for the slight drop (4/10 of a point) from July's index of 100.4. The index of fuel prices was down two points—from July's 93.4 to October's 91.4.

ment. Some observers saw the Conductors' pullout as a definite split among the ops—but representatives of two of the bigger organizations tended to shrug it off.

• **Those other issues.** Almost overlooked in the fuss following the board's award were carrier-union talks on the so-called secondary issues—involving the pay structure, division of road and yard service and inter-divisional runs.

Both sides are close-mouthed on what progress may have been made—but one union spokesman did venture the guarded comment that the negotiators "may be getting somewhere."

But, while disagreement was the order of the day on work rules, management and labor did reach an accord on one dispute: The Conductors and the Pullman Company came to agreement on a contract, to end a dispute which had threatened a strike more than a year and a half ago.

Shorter month for conductors

Agreement on reduction in the basic work month of Pullman conductors from 205 to 180 hours, with no loss in take-home pay, has settled the four-year-old dispute between the Pullman Company and the Order of Railway Conductors and Brakemen. An emergency board report was issued in the case a year ago, and there have been court proceedings.

The settlement, announced Dec. 7, came out of mediation proceedings conducted by Assistant Secretary of Labor James J. Reynolds. It averted a strike which ORC&B had called for Dec. 11.

The 180-hour month is what the emergency board recommended. The settlement makes it effective Jan. 1, 1964, and provides that the wage adjustment involved in maintaining take-home pay will be retroactive to Jan. 1, 1963. The emergency board calculated that the cost of the adjustment to the Pullman Company would be about $561,000 a year.

The board also recommended negoiation of a compulsory retirement agreement under which Pullman conductors would become subject to a retirement-at-65 requirement.

This recommendation is not embodied in the settlement. Another recommendation of the board called for labor-management conferences to devise, for Pullman conductors, a job-protection program which would be recommended to the railroads as owners of the Pullman Company. It is understood that such a program has been developed.

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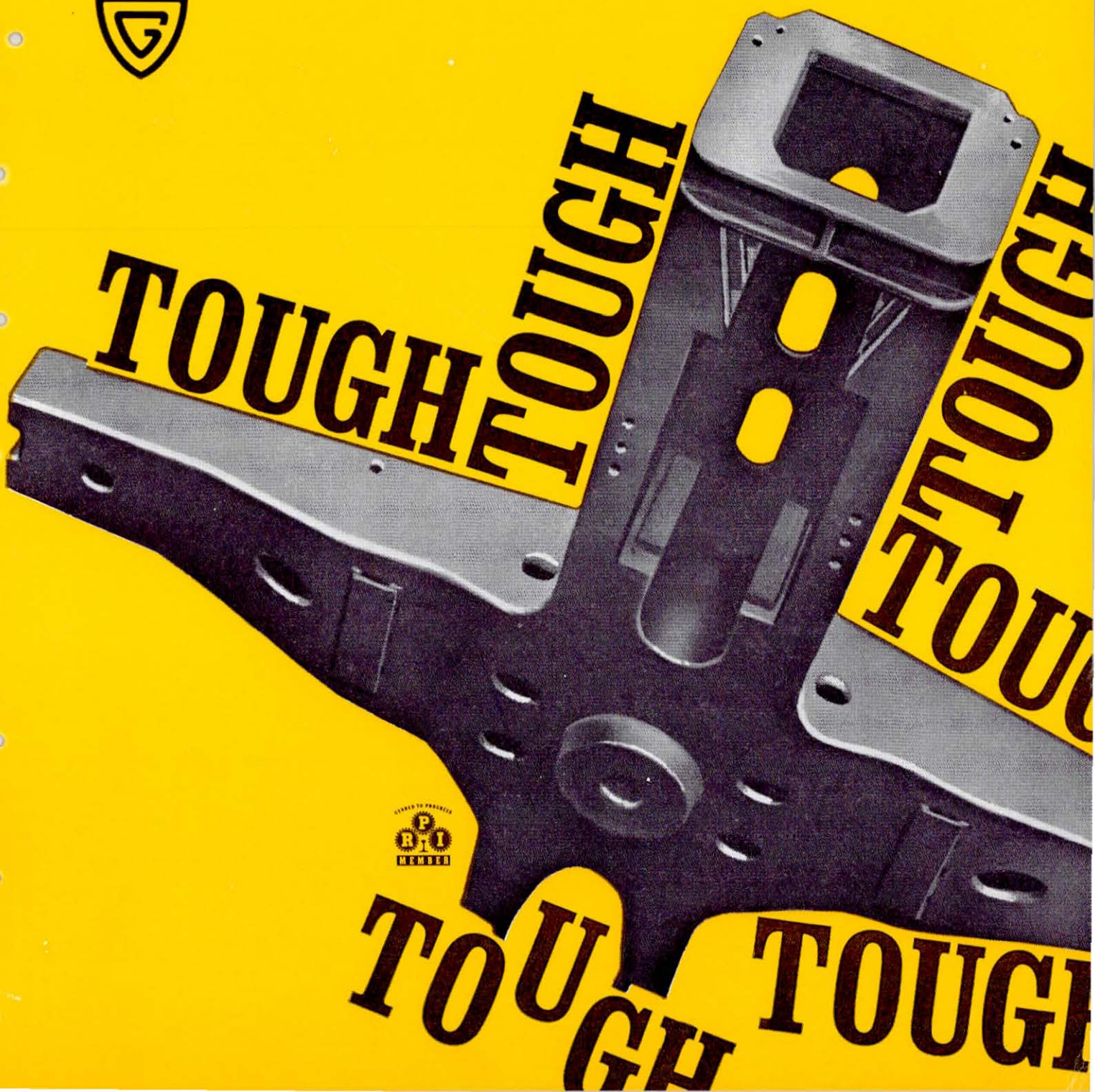

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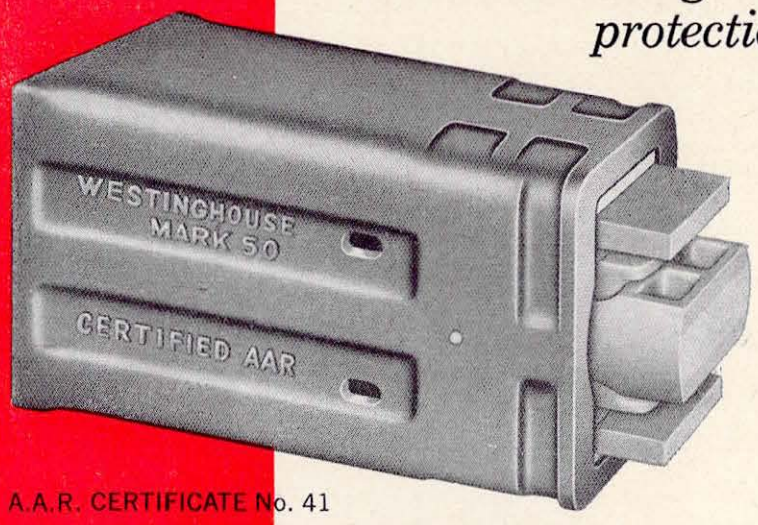

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MARK 50
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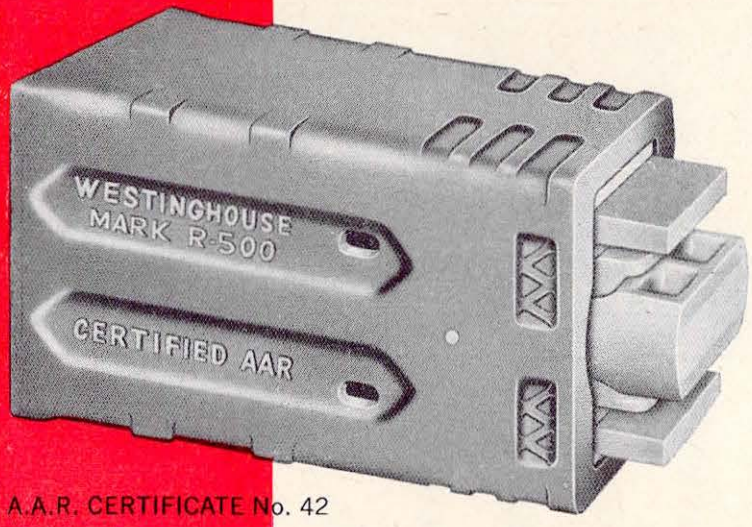

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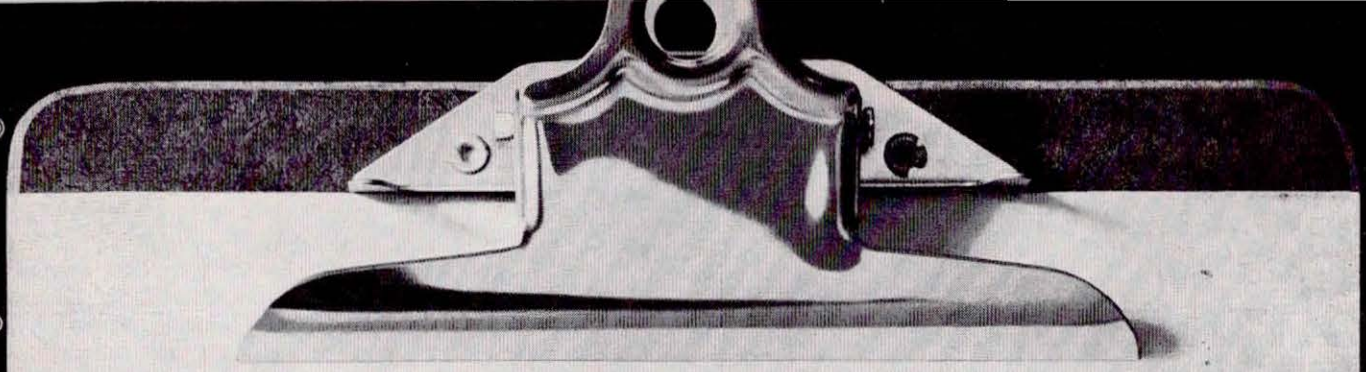

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	ACF	X	Y	Z
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Air return	Yes	No	No	No
Self-contained	Yes	No	Yes	No
Metering pin	Yes	No	Yes	Yes
Available in 20″ travel	Yes	Yes	Yes	Yes
Available in 30″ travel	Yes	No	Yes	No
Made, sold, and serviced by same organization	Yes	No	Yes	Yes
True hydraulic	Yes	Yes	Yes	No
Return travel snubbing action	Yes	No	No	No
Adjustable centering force	Yes	No	No	No
Unit weight installed (lbs.)	2200	3700	3000	2400

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FIGHT FOR EQUALITY

Next year's battles on the waterways

The sinking of taxpayers' dollars into waterway improvements is a perennial problem for railroads. Some particularly lively action on this front appears to be shaping up for 1964.

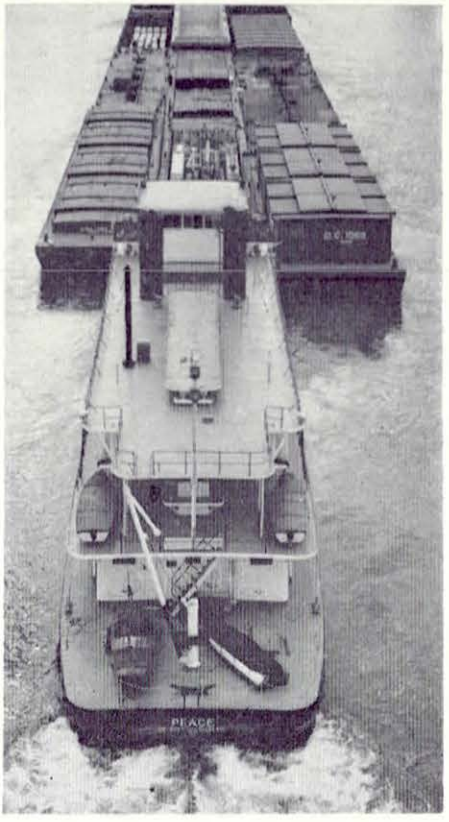
Next year is an election year. And, if politics runs true to form, there'll be a tendency to load the proverbial porkbarrel with all kinds of vote-getting propositions. For the railroads, that means one thing—even stronger pressures applied all over the country to open up, at government expense, new navigable inland waterways.

No section of the country has a monopoly on waterway-improvement projects. In the East, railroads are faced with proposals to build a canal linking the Ohio River and Lake Erie and to improve the Lake Champlain waterway joining the St. Lawrence and Hudson Rivers. In the West, the carriers are fighting off suggestions for navigation improvements on the Missouri and Kansas Rivers. And in the Southwest, railroads are battling—as they have been on several occasions for decades—against the $911-million Trinity River canalization which would give barge lines access to the Dallas-Fort Worth area.

● **Feasibility challenged.** Most of the proposed projects have certain things in common—including railroad opposition on grounds that the projects can't be justified economically. A number of the plans—including those involving the Lake Erie-Ohio River canal, the Lake Champlain waterway and the Trinity River Canal—have been turned down as economically unfeasible in the past. Yet they keep cropping up, always with the promise that each project will bring vast benefits to shippers, receivers and the general economy of the area to be newly served by water transportation.

Railroads say it isn't so. They charge that cost estimates are unrealistically low; that areas will actually suffer economically through diversion of traffic away from the rails and consequent losses in jobs and taxes; that existing transportation facilities are wholly adequate without the introduction of additional competition, especially at taxpayer expense.

● **No user charges?** And, of course, there's the traditional argument against provision of transport facilities by government with no imposition of user charges (such as have been proposed by at least five U.S. Presidents).



CHEAP TRANSPORT? Not for the taxpayers who foot the bills.

How practical are the waterway-improvement proposals? This is R. E. Johnson, Rock Island president, talking about one current situation:

"Just a few months ago . . . certain interests in Kansas started a new movement to turn the Kansas River into a navigable stream. A similar proposition was explored by the Army Corps of Engineers back in the early '30s and adjudged wholly impractical.

"That such a finding should have been made is not surprising in view of the fact that the Kansas River dries up to just a trickle of water during dry spells. It doesn't take too much imagination to guess at the staggering cost of turning such a waterway into a navigable stream—literally hundreds of millions of dollars."

● **Barges: Are they needed?** What about the need for bargeline service? Well, Mr. Johnson declares, "if Kansas were short on transportation service it might, by some stretch of the imagination, be possible to rationalize such a waterway undertaking, such a tremendous expenditure. But the facts are that Kansas has an abundance of transportation and very few of its citizens stand to benefit from floating barges on the Kansas River.

"On the other hand, practically all of the people of Kansas and in other states will suffer from the economic damage done to the railroads because of lost business and from the diversion of tax funds to an unneeded project. In addition—and of great importance—farmers and industries and communities now dependent for one reason or another upon the water resources of the Kansas River will, if this waterway project becomes a reality, probably find their needs playing second-fiddle to the navigation demands upon the available water."

Clair M. Roddewig, president of the Association of Western Railways, has similar thoughts regarding another waterway proposition, a plan to extend navigation on the Missouri River above Sioux City, Iowa. He notes the way such ideas are promoted—the long list of "rich rewards . . . with subsidized freight rates topping the list. But I have to be the spoiler by raising such mundane questions as: Who pays for all this? And when? How much of what is told is fact and how much myth? And is it worth the price?"

Mr. Roddewig looks somewhat darkly at the future, so far as waterways promotions are concerned: "The Army Engineers are reported to be hopefully eyeing an addition of upwards of 3,000 miles of inland waterway. . . . The estimated cost of these future projects would exceed $3.5 billion. That's an average of about $1.1 million a mile. The actual cost invariably is considerably more. After a few millions have been expended on the start of a project, the Army Engineers have never failed to get the additional millions needed to finish it."

● **What benefits?** As for the alleged benefits from waterway improvements, AWR's president puts it bluntly:

"Pick out, strictly at random, a half-dozen metropolitan areas anywhere in the Mississippi valley that are on artificial waterways. Then pick out another half-dozen, also at random, that are not accessible to navigation. Look at

(*Continued on page 20*)

C&O...Pioneer User of SERVOSAFE® Hot Box Detectives*... Extends Its System Still Further

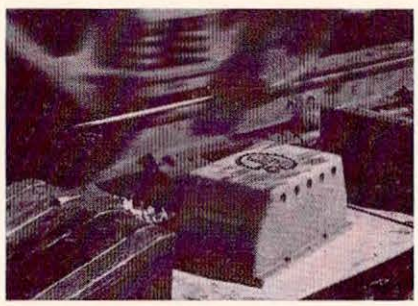
Mr. M. I. Dunn, Senior Vice President, The Chesapeake and Ohio Railway Company

With its initial installation of a SERVOSAFE® Hot Box Detective* at Norge, Virginia, in 1956, the C&O became the first railroad to monitor for overheated journals with the then-new SERVOSAFE system.

Since that time, the C&O has expanded its coverage to a total of over twenty of these units in service. Now, more SERVOSAFE Hot Box Detectives are being installed, to extend even further its network of protection.

The reliability and value of the SERVOSAFE system can be demonstrated by some figures supplied by the C&O. One Hot Box Detective, in a single half-year period, detected overheated journals on 53 trains. Of these, 40 cars were serviced and continued in the train, while 13 others had to be set out. Any or all could easily have caused costly accidents or derailments had they not been discovered.

Extrapolate this number of "saves" accumulated by one detector in a half-year period and apply the figures appropriate to your own road, and you can see how quickly SERVOSAFE systems amortize themselves and make a substantial return. Get the full facts and figures . . . get in touch with Servo today.



Railroad Products Division

SERVO CORPORATION OF AMERICA

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Cars made with Reynolds Aluminum . . .

. . . carry coal with 40% more payload

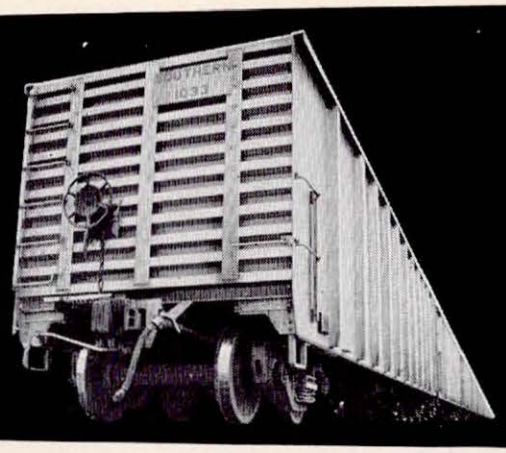
. . . . . carry chemicals that steel can't handle economically

. . . carry corn at lower costs

Why *Aluminum* Cars?

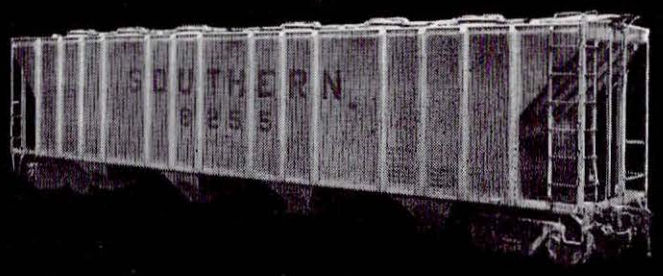
1. Aluminum cars are lighter, easier to handle, and offer bigger payload capacities.
2. Aluminum cars need little or no maintenance, will never rust.
3. Aluminum cars haul corrosive cargos that can't be hauled economically in steel cars; they reduce cargo contamination, increase cargo protection.
4. Aluminum cars offer no special fabrication problems.

Southern Railway's gondolas made with Reynolds Aluminum haul 100 to 110 tons of coal each . . . as compared to the conventional steel car's 70 ton capacity. And because they're aluminum, these gondolas resist abrasion, are clean dumping, need no protective maintenance.



GATX tank cars made with Reynolds Aluminum are the practical solution to hauling highly corrosive ammonium nitrate fertilizer for Armour & Co. Aluminum is immune to this corrosion. Steel tank cars need expensive protective coatings, and stainless steel cars cost more than aluminum. Aluminum also protects chemical cargos with its high reflectivity, high thermal conductivity, and non-sparking properties.

Southern's "Big John" hopper cars made with Reynolds Aluminum haul 100 tons (and more) of corn each. This is twice the capacity of a conventional steel car . . . and enables Southern to offer greatly reduced freight rates for hauling grain. The resulting savings will be of ultimate benefit to everybody concerned.



Versatile aluminum is also used in car doors, flooring, roofs, inner-liners, containers, bulkheads, and crossmembers—to cut deadweight and maintenance costs, and increase payload capacity.

For any railroad application, Reynolds offers design and technical assistance . . . plus the highest quality aluminum. Get information from your local Reynolds office, or write direct to *Reynolds Metals Company, P. O. Box 2346-TM, Richmond 18, Virginia.*

Watch the Richard Boone **Reynolds Aluminum Show,** Tuesday nights, NBC-TV.

REYNOLDS ALUMINUM

Scuttling the myth of 'cheap' water transport

(*Continued from page 16*)

the 1950 and 1960 census figures for each group and compare the rates of population increase. I'll guarantee you're in for a surprise.

"Most of the industries that are locating on rivers do so because they need large volumes of water in their manufacturing processes. They also need some place to dump the water and dispose of other industrial wastes. Only a very small percentage of them make any use of water transportation.

"Another myth that is kept very much alive by the Army Engineers and others who benefit by the building of these artificial waterways is that barge transportation is the cheapest form of surface transportation. . . . Inland-waterway interests talk about low-cost transportation just as though the only cost was the cost of the barges and tugboats and their operation.

● **Costs—and real costs.** "The truth, of course, is that the costs they talk about are only a part of the real cost of this type of transportation. The cost of providing, operating and maintaining the facilities the barges use—every dollar of these costs—is paid by the taxpayers of the United States.

"From the standpoint of cost, barge transportation on artificial waterways is a burden on the national economy—a liability, not an asset."

Liability or not, barge transportation is being boosted—and the big push could come next year.

The Trinity River project is an example—one which its backers want to get into Congressional study and possibly into the omnibus rivers and harbors bill in '64.

The Trinity is a 548-mile river. Canalization would mean the building of 23 locks, to take care of the stream's 480-foot climb from the Gulf of Mexico to Fort Worth. Total cost of the job would be $911 million—of which $505 million would be chargeable to the navigation aspects.

● **Support for Trinity.** Politically, the Trinity project has strong support from Texans on Capitol Hill—including, so it's reported, support from President Johnson. Texas railroads, however, are putting up a grim fight—and basing it on both legal and economic grounds. Their efforts in the courts have accomplished little—but their economic arguments have attracted attention within the Commerce Department, to cause a second look at the project. Now, though, Commerce has given its approval, and the Trinity plan goes to the Bureau of the Budget.

The Texas Railroad Association has been especially sharp in its questioning of the benefit-cost ratios developed by the Army Engineers. Initially, the Engineers' figures indicated a ratio of 1.2—a $1.20 return in benefits for every dollar of cost. But, the TRA charges, the Engineers used unrealistically low interest rates for computing interest during construction and annual charges. They also used an amortization period of 100 years and a like period for projection of tonnage and benefits. This, says TRA, "represents a new evaluation concept adopted by the Engineers in 1961." Before '61, 50 years was the period used—and the railroads contend that the switch to 100 is contrary to views expressed by the Department of the Army, the Department of Commerce and Federal Power Commission.

● **73 cents, not $1.20.** TRA's own assessment of the benefit-cost ratio—using a 50-year period and adjusting interest rates to a more realistic basis—points to a ratio of .73 or 73 cents in benefits for each dollar of cost.

Fish story

The Engineers' ratio was subsequently scaled down. The Board of Engineers for Rivers and Harbors pegged the figure at 1.13. But, TRA declares, a restatement on a 50-year basis and use of current interest rates drops that figure to .69.

Moreover, the railroads note, even the 1.13 ratio would fall to .92 if benefits and charges not relating to navigation were eliminated. Says B. V. Reynolds, director of the TRA traffic research committee: "Obviously the Board found that navigation could not be economically justified without crediting it with benefits for area redevelopment, recreation, fish and wildlife."

Like many another waterway proposal, the Trinity plan has been around since the turn of the century. Seven locks and dams were actually built in the early 1900s—and were later abandoned because available traffic didn't justify continued maintenance. The Engineers took another look in 1939 and found construction feasible. Benefits were estimated at 1.13. But the Board of Engineers rejected the report. Reason: insufficient benefits to warrant construction.

● **One billion—for what?** A similar situation exists in the East, where the pressure—most of it reportedly from the Youngstown, Ohio, area—is still on to build a Lake Erie-Ohio River canal. Railroad interests regard the billion-dollar project as wholly unfeasible economically. As matters stand, now, however, a Corps of Engineers' report is scheduled for early spring—with or without pre-submission hearings.

As Pittsburgh & Lake Erie President John W. Barriger once pointed out, for a mere fraction of the cost of this canal the government could buy or build a fully equipped railroad between the lake and the river and then "with the annual interest, amortization, operation and maintenance charges, transport entirely free of charge or at nominal rates every pound of freight that would move over the canal and more besides. . . . I am not suggesting that the government build and operate a free railroad. I only desire to show how ridiculous the canal proposal is when submitted to the test of comparative economic analysis."

AWR President Roddewig is even more sharp in his appraisal of "low-cost" barge transportation: "What do you suppose would happen if, on next July 1, the users of these waterways were required to pay for the use of this service just as, for example, the users of water on government reclamation projects are required to repay the government in full?"

● **Barge 'disaster.'** Recalling the cry of "disaster by taxation" which greeted President Kennedy's proposal for a 2-cent user tax on waterway fuel, Mr. Roddewig lands hard on the barges: "By their own admission, waterways have to be heavily subsidized by the government in order to compete with other forms of transportation. They can't stand on their own feet and pay their own costs. And right there goes the myth of low-cost water transportation."

AWR's top officer has no illusions that the situation can be corrected easily—and the number of current waterway proposals indicate that the fight will be a long one. But he's determined that a start should be made: "I realize it is going to be extremely difficult to halt this looting of the national treasury. There are so many people participating in the spoils that perhaps it is naive even to suggest it.

"But there is more involved than the waste of the taxpayers' money or the irreparable damage done to railway transportation. Of far greater concern is the undermining of the American way . . . the wholesale seduction of citizenship, the buying of political support and the impending threat to our whole system of private enterprise.

"What is happening in transportation has a good start in some other important areas and is beginning to show in still others. It may well be that we have not far to go before we will have passed the point of no return."

How MP keeps track of its special cars

Missouri Pacific's new control center keeps the road's fleet of 4,000 specialized freight cars under 24-hour computerized scrutiny. The goal: better utilization of expensive cars.

Railroads are starting to keep a round-the-clock eye on specialized freight equipment, wherever it goes. The fancy cars are too costly for railroads to allow them the ordinary box car's leisurely way of life.

Early this month, for instance, about 4,000 Missouri Pacific DF cars, covered hopper cars, Air Slide cars, bulk head flat cars and other specialized equipment rolling in all parts of the U.S. were under close, computerized scrutiny from MoPac's headquarters in St. Louis.

The computerized scrutiny is touching a lot of bases for MoPac:

- It maintains a perpetual inventory of the fancy cars, wherever they are on any given day.
- It automatically establishes realistic dates for arrivals, releases and forwarding of MoPac's specialized freight equipment.
- It quickly isolates, in reports, cars delayed or mishandled.
- It provides disposition instructions on cars that are delayed, directing their movement to traffic areas where they can be promptly utilized.
- It provides a continuous forecast of cars which are available for loading in each traffic area.
- It provides MoPac officers with regular—and complete—utilization statistics.

The system went to work on Dec. 2, when MoPac specialized equipment moving on—and off—MoPac lines triggered a blizzard of messages that flowed into the road's new special freight equipment control center at St. Louis. As a result of the messages, MoPac traffic representatives all over the country began—next day—getting morning reports by airmail of all specialized equipment coming or going, loading or unloading, in their territory.

MoPac traffic men getting the morning report reached for their hats. Explains L. W. Coleman, manager of the new control center, "They have to get out and hustle business for the equipment coming into their territory—business that will take the car back to MoPac lines under load—or see the cars home-routed, fast."

MoPac, like other railroads dissatisfied with the turnaround time and the utilization factor of the expensive cars, in mid-1963 began surveying methods in use by other railroads for keeping track of such equipment. Railroads like Louisville & Nashville, Soo Line, Atlantic Coast Line, Southern and Southern Pacific are using various techniques to keep a 24-hour watch on their specialized equipment. (SP is currently installing a computerized reporting system that will report daily on every piece of SP rolling stock.)

- **Needed to act.** MoPac officers, confronted with a utilization study of the railroad's specialized equipment that indicated the need for improving turnaround and utilization of the cars, felt they had to act quickly. They decided to install a surveillance system that would keep an eye on every piece of special equipment, as a first step, and then expand the surveillance to other blocks of the MoPac equipment roster.

The stakes are high

MoPac's utilization study indicated the magnitude of the stakes. Even a small improvement in the utilization of this equipment would result in net benefit of more than $1,000,000 annually to the MoPac, Texas & Pacific (82.86% MoPac-owned) and the Missouri-Illinois. MoPac assessed the capacity of existing communications networks and began upgrading capacity where needed to handle the flow of reports that would be needed by a special freight equipment control center. MoPac's IBM 1401 and 7074 computers were pressed into service to collate, classify and print the reports with which MoPac officers—down to traffic representatives far from headquarters—would be able to keep a round-the-clock eye on the railroad's specialized equipment.

- **Data put on cards.** The reports flowing into St. Louis come from every MoPac agency, yard, office, and territory that has a specialized car. Information from the reports such as car initial and number, date shipped, commodity code number, origin city, shipper, origin agency code, consignee, destination city, destination agency code number, and intended use after unloading, is punched onto cards for the computers.

Late every night, when all MoPac's precincts are heard from, the cards are fed into the computer—and in a matter of minutes the computer begins spewing out daily car inventory reports which show all cars that have been billed and are en route to a particular territory. This report comes out every morning in 88 different agency reports, each one showing the particular cars in the territory of the report that are coming or being unloaded. When a car is loaded, it will begin showing up in the report of the appropriate territory.

"The report isn't just for information," notes Mr. Coleman. "We want utilization out of this equipment and the report is designed to give our traffic people the maximum kind of lead time for securing the kind of loads that will improve this. For instance, if a car is pulled out of a shipper's siding for delivery to an off-line destination which we know will take three days to reach, we add a working day to that time, to take care of unforeseen possibilities, plus three days for placement and unloading, to give the traffic man a time against which he must work. He then knows that he has to come up with a load within seven days that will take the car back to the MoPac. If he doesn't, a request from another territory will get the car, if it is in the line of the car's home-routing, or it will be home-routed. We've got plenty of use for our specialized freight equipment on our own lines."

- **Report of delay.** Weekly, the special freight equipment control center produces a report that lists all cars delayed for three days. If a car on this report is not loading, it is diverted by telegram and sent to territory needing such equipment.

A third report, monthly, which goes only to MoPac's vice president of operations, J. H. Lloyd, and vice president of traffic, F. J. Conrad, and to the road's upper-echelon traffic officers, is a utilization report. It shows the utilization of the fancy equipment by types, number of loads carried, and movement dates. It will enable the railroad's top management to keep a scorecard on how the fancy cars are performing "in terms of use and the cash register."

- **Program works.** A fourth report—also monthly—shows trips that were

made without MoPac permission and/or which moved under load without MoPac-T&P-MI routing.

The entire program, after two weeks of operation, is, says Mr. Coleman "working beautifully, actually better than we had anticipated—and we knew beforehand it would be good."

Basic document in the chain of information that is providing MoPac with an up-to-date picture of where its specialized cars are and what they're doing is the same advice form that load-originating points formerly sent to destination points. An October spot check of the system formerly used to keep track of the fancy cars revealed that out of 2,138 cars checked, 25 were last reported as moving in July; 284 were last reported in August and 1,829 were last reported in September. Notes Mr. Coleman, "In other words, 50% of the total number of unassigned specially equipped cars were not being reported." Also, "There was a serious time-lag from the date cars were billed until the form was received in headquarters at St. Louis. Our check indicated this time lag averaged seven days."

● **Centralized ordering.** The MoPac's special freight equipment control center gets all orders for special equipment by telephone, Teletype or Western Union. MoPac's instruction to agencies is specific: "Under no circumstances will it be permissible for traffic agencies to hold cars for prospective loading without authority from the special freight equipment center."

Even if an agency has a load available for a car moving into its territory, an empty car order for the equipment has to be placed at the St. Louis control center before the expected unloading date shown on the daily inventory report. When no order is received by the car's unloading date, the equipment is regarded as available and is used by the control center to apply on empty car orders. Empty car orders and instructions are issued by the control center to move the equipment to traffic territories which have placed orders for equipment.

When an agency thus "loses" a car to the control center, it—or any other MoPac agency, for that matter—no longer has authority to intercept or confiscate the equipment for loading or any other purpose without first obtaining authority from the control center.

"The control center's ability to decrease turnaround time for this expensive equipment," notes a MoPac operating officer, "depends upon the center's possession of two things: accurate and up-to-date information plus complete knowledge of the flow of all loaded and empty movements of MoPac's specialized equipment all over the U.S., the direction in which the cars are moving, the scheduled arrival date—plus the date at which the cars will be available for loading or distribution."

All orders for special equipment from all MoPac traffic agencies, both on and off-line, including T&P and M-I agencies are placed with the special freight equipment control center at St. Louis. "The control center," notes Mr. Coleman, "has knowledge of the flow of all loaded and empty movements over the entire U.S., and thus is enabled to efficiently distribute needed cars in such fashion as to maximize results to the company."

● **System expandable.** The reporting system is structured to allow easy expansion of the control system toward near-range and long-range goals. Notes Mr. Coleman, "Complete routing, including our system's on-coming and off-going junction points, are shown on the reports that come into the special freight equipment control center. Every road participating in road hauls is included. This is of great importance. The company wants to know of every instance where one of our expensive cars is used for hauls in which we do not participate. Railroads—especially at present per diem rates—can hardly afford to have $20,000 cars out working for others at $2.88 a day. We're not alone in this. Many railroads are doing the same."

Also reported are notations indicating an "empty" move, or "B. O. Rprs" for cars moving home empty for repairs or conditioning.

Studies at the first of the year will begin on the problems of adding additional blocks of rolling stock to the control center's continual, computerized inventory. "Ultimately, I suppose, we'll have a daily eye on all the railroad's rolling stock," says Mr. Coleman. "It takes a lot of work, however. Our Teletype and communications facilities have to be expanded to take care of the volume it would require—and we would also have to insure a reasonably well-trained staff on the railroad to take care of the reporting that is required. With the cutting in of blocks of cars this way it allows us a systematic period of preparation time. It is working out just fine."

● **Cost modest.** MoPac's control center—considering the millions of dollars in additional earnings that can be achieved with even a modest increase in utilization—is not a costly proposition. All expenses, including salaries, computer time, paper, Teletype and telegram expense, come to only a modest cost.

Saunders hopeful for '64

PRR chairman cites earning trends, capital spending rise.

Increases in net earnings, in returns on investment and in capital expenditures are the symptoms of a recovering and revitalized railroad industry, one top carrier officer finds.

Stuart T. Saunders, board chairman of the Pennsylvania, delivered an address in New York last week at the annual meeting of the Institute of Life Insurance that left little doubt of his faith in the industry's capacity to slam the brakes on a long decline, and begin moving ahead.

Bearing down hard on point after point, he showed where this faith comes from:

● Net earnings for the industry in 1963 appear to be at the $650-million mark, compared to $571 million for 1962. Revitalization of the carriers, is evident, he added, from the fact that net income will rise about 14% this year on an increase in gross revenue of only about 2%.

● Anticipated industry-wide return on investment this year is 3.1%, "still far too little," Mr. Saunders said, "but an encouraging improvement over the 2.74% of last year. Indeed, it will be the fourth straight year in which the return on investment figure has advanced upward."

● Railroad capital expenditures reached a billion dollars for the first time since 1957, and Mr. Saunders added, "I believe that the 1964 total will be even better."

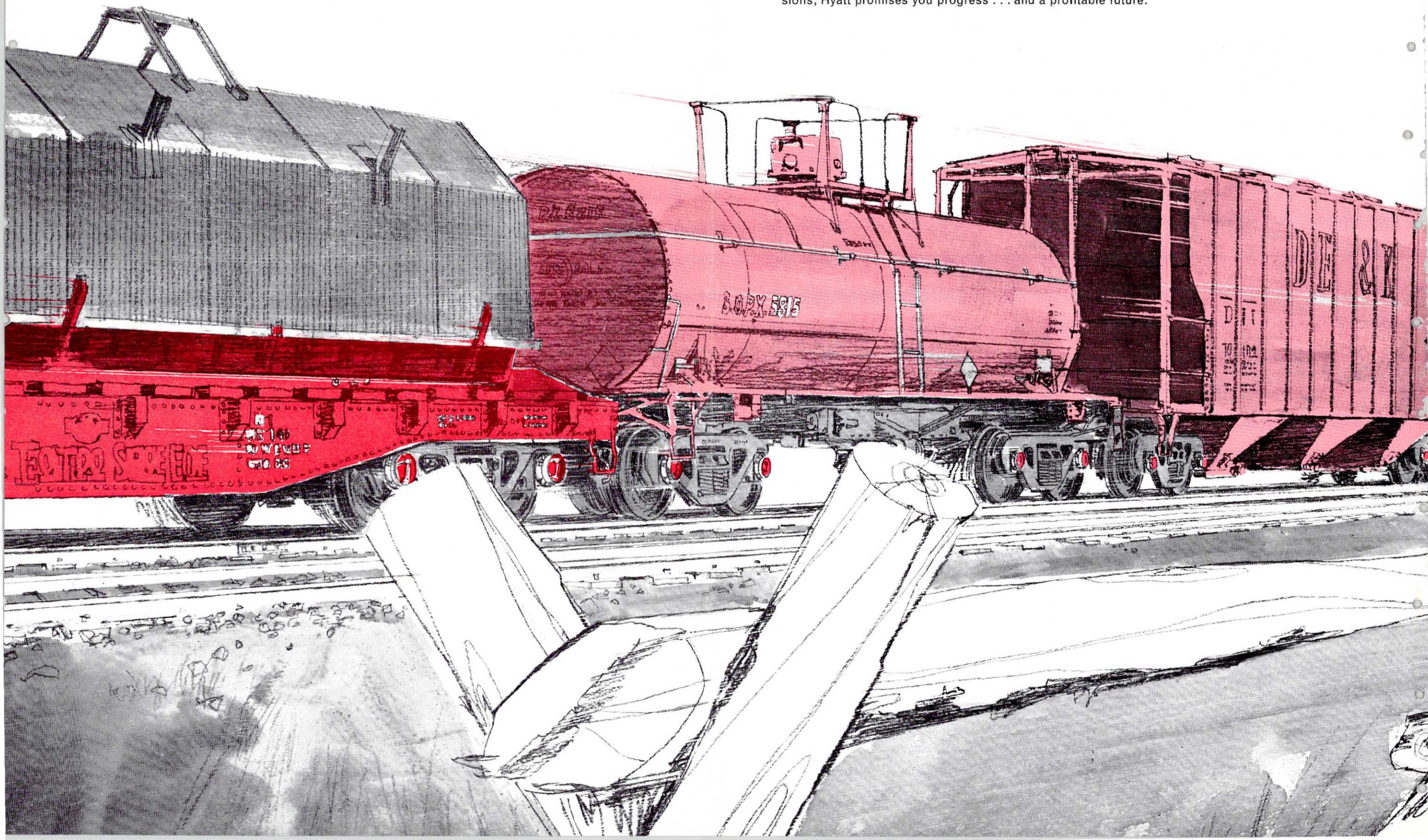
Fresh thinking in the industry is gaining new customers for the railroads, and winning back old ones who fell away, he said. New concepts in rate-making got some of the credit from Mr. Saunders, and he cited the example of the unitized train hauling coal for large volume consumers. Going beyond that, "the railroads are beginning to sell themselves, to merchandise with new skill and effectiveness. They are beginning to employ marketing techniques which are basically no different than those used to sell any other industrial product, and they are becoming more and more successful."

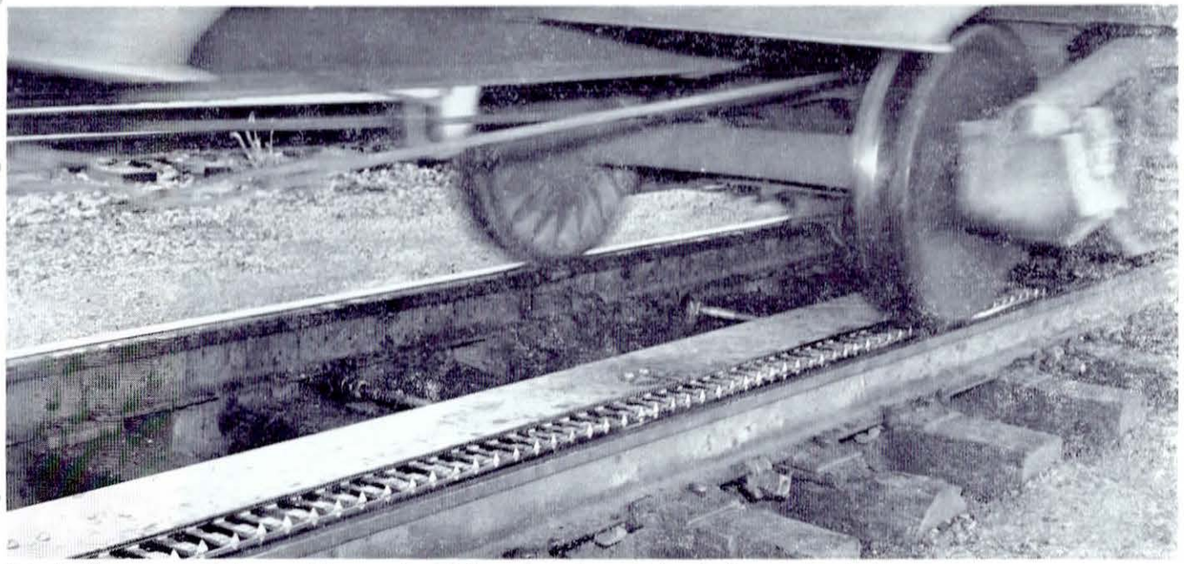
Less maintenance . . .

It takes only seconds to inspect Hyatt taper freight bearings. Just a touch tells you they're running cool and true. Time and dollar-consuming inspections are minimal, because Hyatt's dependable bearings eliminate hot boxes—the number-one cause of freight train delays.

increased revenues . .

Railroad men have proved that revenues increase along with freight train efficiency. They have found ways to recapture lost freight business with modern, economical freight service. And they have learned that Hyatt taper freight bearings can be easily installed on cars now equipped with friction bearings . . . and *pay for themselves* in maintenance and inspection savings. On new cars and conversions, Hyatt promises you progress . . . and a profitable future.





Detector fingers are not depressed by car wheel if flange is broken, which actuates warning devices.

Bad wheels spotted in motion

Wheel Checkers, which automatically detect certain defects on moving freight cars, are usually installed in yards; the B&O, however, is planning six installations on its main track.

Wheel Checkers—automatic detectors of broken flanges and loose wheels on moving freight cars—are growing in popularity. Among the reasons: higher train speeds, heavier loading of cars and faster schedules which have reduced the time available for yard inspections.

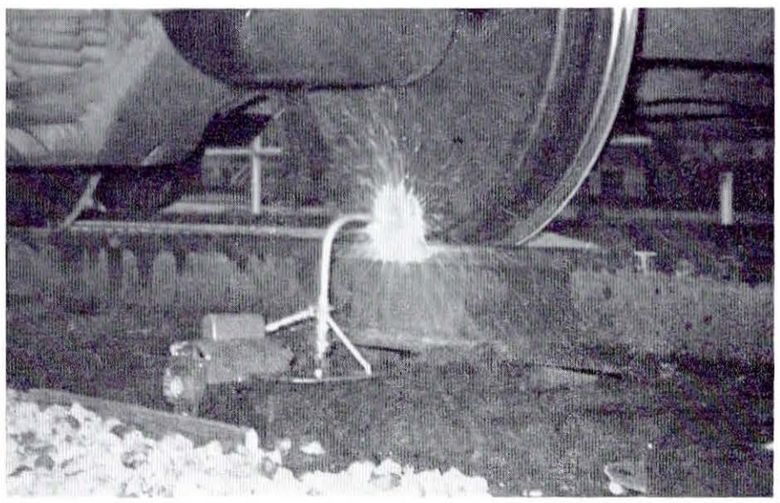
● **Main-line application.** The devices are installed mostly on the approach track to the hump in retarder yards and on switching leads in flat yards. Some operating officers, however, believe Wheel Checkers can be just as effective when installed on main lines. The Baltimore & Ohio, for example, is planning six Wheel Checker installations on main tracks. The installations are being made, says the road's senior circuit engineer, signals, J. A. Phillips, because of "the large number of trains not being yarded."

Installation locations were selected, Mr. Phillips adds, "where speeds not exceeding 20 miles per hour are now in effect, or where restrictions would be least objectionable. A tape recorder will be used for indicating defects so that the car having a defective wheel can be readily counted or identified."

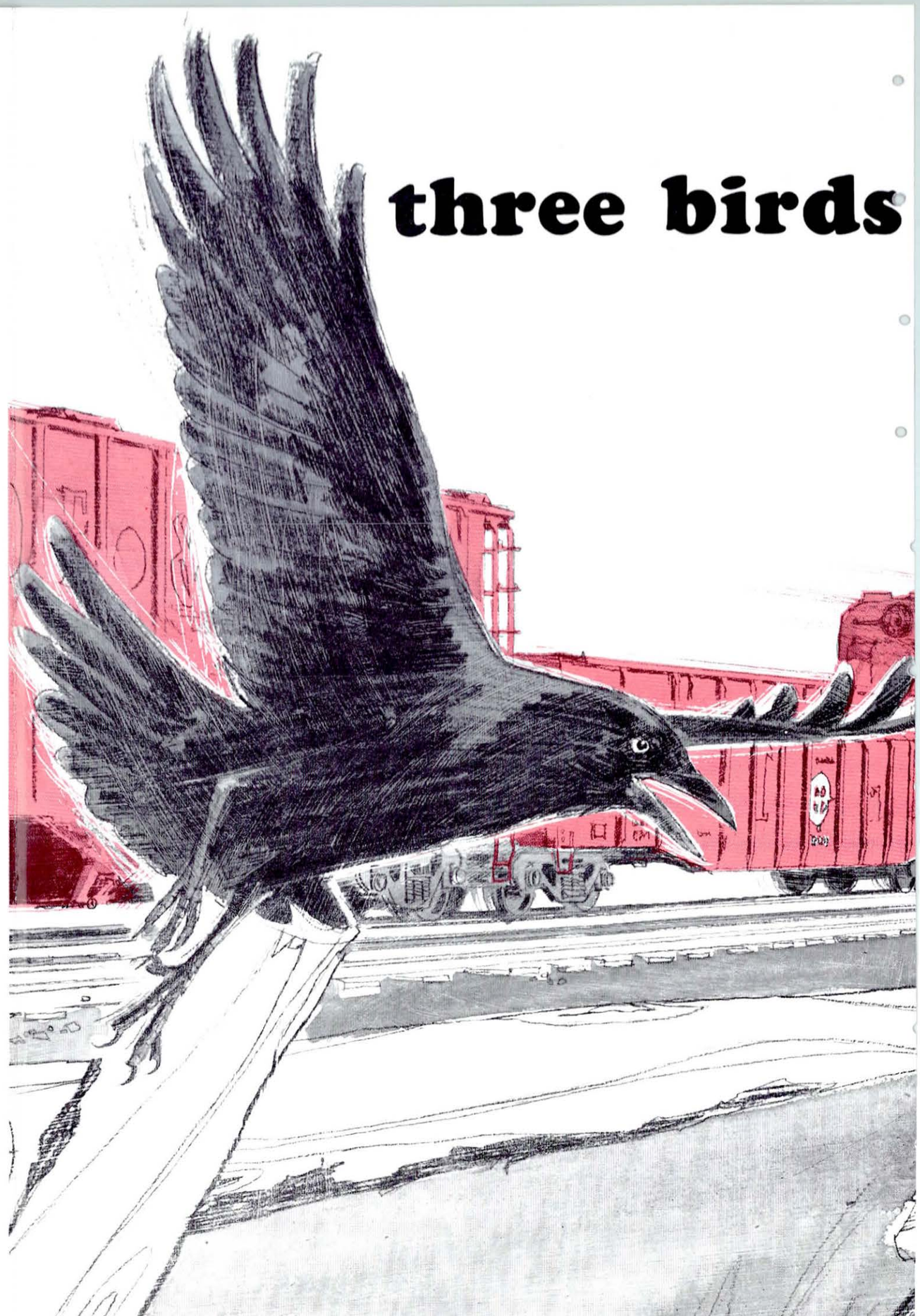
● **Method developed by NP.** A means to provide a printed record of defects was developed by the Northern Pacific. Westbound freight trains entering that road's Spokane, Wash., yard pass over a Wheel Checker unit which detects broken flanges, loose wheels or dragging equipment. Simultaneously with this field check, information is sent one and one-half miles to the yard office and recorded on a paper tape to provide a visual record.

The Wheel Checker has two detector units consisting of a series of metal fingers mounted between the rails (one for each rail, but not opposite each other), that are depressed by passing wheel flanges. A loose wheel or one with a broken flange will not depress a finger, which causes an electrical circuit to be completed. This causes a device to squirt yellow paint on the wheel of the car having the defect. Also, the paper tape shows the side of

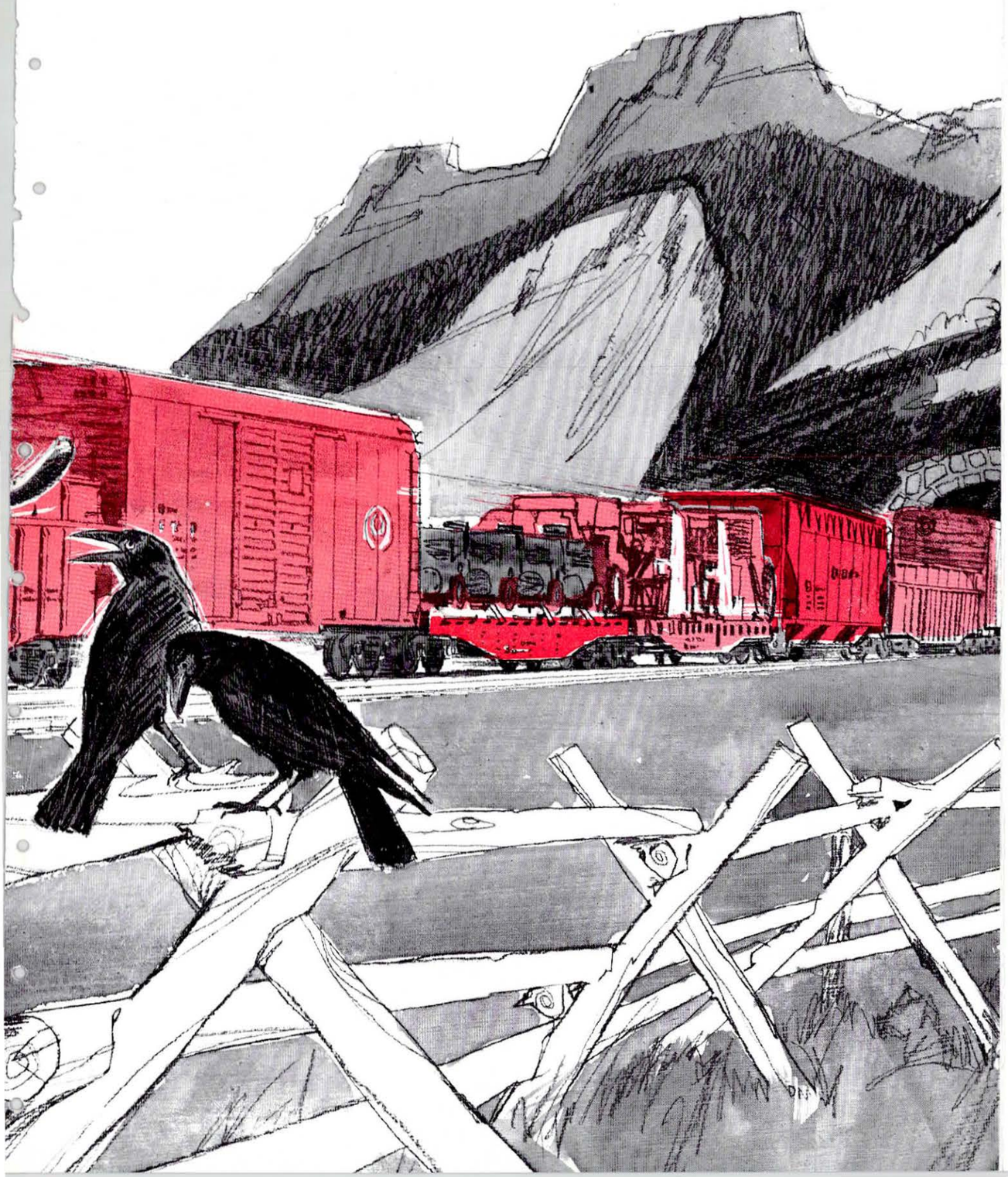
(*Continued on page 30*)



Spray unit directs a stream of yellow paint against a defective wheel.



with one stone!



RAILROADING AFTER HOURS WITH JIM LYNE

HOW AUTOMATION INCREASES JOBS—The other day I saw in Time magazine a chart portraying the growth of the Bell Telephone System between 1945 and 1963. Here is a company that must have about as large a ratio of "automation" as any outfit in the country. To hear some people talk about the effect of automation on employment, what do the figures show for AT&T? Well, the chart shows Bell System employees at 387,000 in 1945 and 729,000 in 1963—an increase of 88%.

LYNE

The number of telephones in the same spread of years increased over 200%. And the Bell people are going to spend $3 bill on this year on capital improvements—or just about three times as much as the entire railroad industry will spend.

It is certainly true that a little bit of automation might result in some decline in employment—but a lot of capital investment on automation and other capital improvements that hold down costs and prices (and hence increase the volume of business), should result in more jobs—not fewer.

Don't you reckon the railroads would have a lot more jobs today than they do, if they had been able to "automate" to the point that their service and price improvement had attracted an increase of 200% in their volume of business?

The fellows who are going around talking about railroad "affluence" and "profits" are doing a lot of harm to railroad employment. It is industries that can raise lots of new investment capital, and enjoy a rapidly growing volume of business that can offer increased job opportunities to their employees.

NATIONAL ORIGIN OF RAILROADERS—When I was a kid most of the names prominently connected with railroading were, in origin, British, Irish, German or Scandinavian. There has since, of course, been a steady increase of able recruits with quite different family backgrounds. One name that struck me particularly some years ago was that of C. S. Gzowski, who was chief engineer of the CN in the 1920's and 30's. At the time I was told that—despite the fact the name was Polish—Mr. G. nevertheless came from an "old Canadian family."

Mr. G. was in fact the grandson of a famous engineer and builder of canals and railways in the U.S. and Canada, who came to this continent from his native country in 1834. Then, as now, Poland was under Russian domination, and Casimir Gzowski found North America more hospitable than his native land—especially since he had already learned English and was a highly trained engineer. He was active in the construction of many early canals and railways in Eastern Canada (thanks to D. S. Law of the CN's PR department for the information); and in 1890 he was knighted by Queen Victoria.

LIVE FISH BY RAIL—It turns out that moving live fish by rail (see this corner Dec. 2) is no mere artist's dream or a Russian claim to a "first." Let Stanray's Art Williams, my informant, tell the story:

"Prior to 1920 an enterprising fish peddler conceived the idea of shipping live carp to the New York market in tank cars. The carp is a lazy fish. They all settled to the bottom and few survived the trip. A resourceful ACF employee, Tom Kelly, recommended that a catfish be included in each shipment—the idea being that the catfish would flip around and keep the carp awake, and hence alive."

Art Williams vouches for the truth of the foregoing and I believe him. The only thing about the report that sounds at all fishy to me is the carp—who'd want to expend all that ingenuity on carp?

C. McD. DAVIS, PHILANTHROPIST—On my table is a copy of the Wilmington, N.C., "Star-News," and looking right at me in it is a picture of C. McD. Davis, retired president of the Atlantic Coast Line. In the background is his home at Porter's Neck Plantation.

The news is that Champ Davis has established a charitable foundation with a gift of 90 acres of land and $650,000 in securities, which will be used to establish a non-profit home for the aged, to be named for the philanthropist's mother.

Champ has always been a warm friend and a cheerful companion. He has always had, also, a deep feeling of social responsibility—as witnessed not only by this present gift, but also in top rank leadership among laymen of his church. And everybody knows how deeply committed he has been to railroading and to the Coast Line. He has not been a 40-hours-a-week railroader.

(*Continued from page 23*)

the car (north or south), the car count (from the head end), the date and the time the defect was detected. Also printed on the tape is the time and date when the train enters the Wheel Checker and when it leaves.

● **B&O's first installation.** At a typical retarder classification yard installation, the B&O made its first Wheel Checker installation in 1960.

Here's how such a bad-wheel detector functions at a B&O retarder classification yard, as explained by Mr. Phillips. The Wheel Checker is located in approach to the hump crest. Normally, two green lights are displayed, one for each rail. When actuated, the green light is extinguished, a buzzer is sounded, and a red light is illuminated corresponding to the side where the defect occurs. Also, the hump signal and hump engine's cab signal are placed at stop. Therefore, an inspection can be made before the car goes over the hump.

● **Good record.** During the years 1961 and 1962, 40 broken flanges and 83 loose wheels were detected. In addition, many pieces of dragging equipment were detected.

A second installation was made on the B&O in March 1963. This Wheel Checker is located in a yard receiving track. The installation uses a paint marking system to identify defects and is reset automatically. The relay unit is located at the detector and indications are repeated, using three line wires, to a telegraph office about three-quarters of a mile away. Three broken flanges and two loose wheels have been detected to date.

● **Southern's experience.** The Southern has 22 sets of broken-flange detectors to check all cars received in various yards in interchange. The detectors sound an alarm and actuate equipment to indicate defects on a recorder tape.

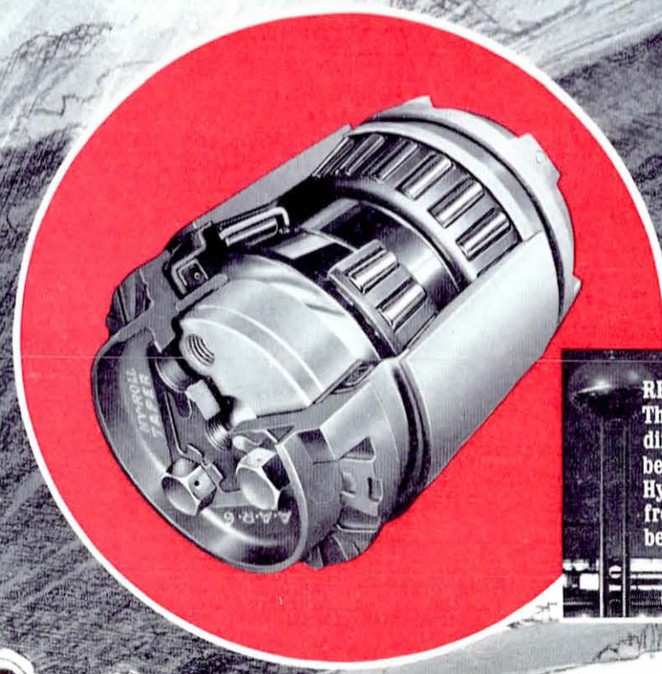
An average of one broken flange and 12 other defects—such as loose wheels, brake slow down, hopper door down, straps or brake beam down—is detected each week on the system, reports a Southern spokesman.

● **'Excellent job' on K&IT.** The experience of the Kentucky & Indiana Terminal with broken-flange detectors is cited by G. O. Prosser, superintendent car department. "We have three broken-flange detectors which protect our entire operation. They are located approximately one mile from the entrance to our main classification yards at Louisville, Ky. We find them very efficient and doing an excellent job. In the last two years, these machines have detected four loose wheels (one on a passenger car), as well as numerous brake beams down and other items of material or lading dragging on the rail."

improved service . . .

with HYATT taper freight bearings

Modern transportation makes high demands on railroading. Freight trains often include specially designed, special purpose cars. Freight cars must go faster and farther without failure. Equipment must start easily . . . stop smoothly . . . stick to schedules. Hyatt's taper freight bearing makes continuous, high-speed, low-cost freight service a reality.



RESEARCH The big difference behind Hyatt taper freight bearings

HYATT ROLLER BEARINGS
FOR NON-STOP FREIGHT

GM GENERAL MOTORS

HYATT BEARINGS DIVISION • GENERAL MOTORS CORPORATION • HARRISON, NEW JERSEY

L&N uses portable ramp for piggyback

Trailer handling is solved for light-traffic points where permanent ramps are not justified.

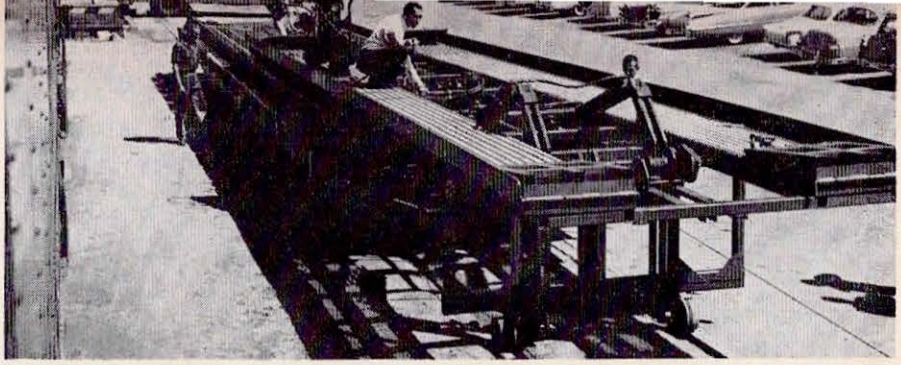
The Louisville & Nashville's portable ramp is designed for service at points on the system where there is insufficient traffic to warrant building a permanent installation for loading or unloading TOFC shipments. It was first used on Sept. 9 at Portland, Tenn., to unload the first of some 70 shipments, during which a complete lawn furniture plant was being moved from Florida.

● **One-man operation.** The entire loading and/or unloading of the ramp can be done by one man. Usually, a two- or three-man crew can complete the operation in 1½ to two hours. Improvements are being made in the control unloading arrangement so that one man can unload and load in twenty minutes.

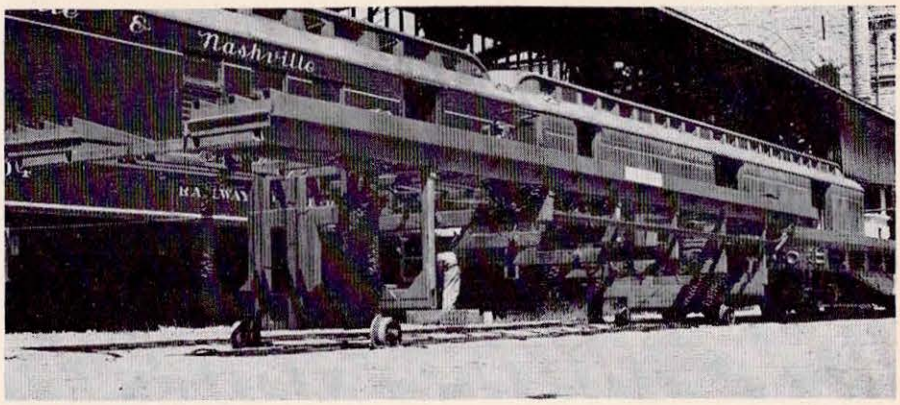
Key to handling the 45-foot ramp off and on the 50-foot car is the portable Spencer hydraulic pump equipped with a quick-disconnect hose. A 7½-horsepower Koehler gasoline engine drives the unit, which has a 12-gallon reservoir and a three-gallons-per-minute pump providing a pressure of 1,000 to 2,000 pounds per square inch. The L&N uses 1,350 pounds per square inch for its operation.

The hydraulic unit, mounted on a hand truck, can be moved around the flat-car deck to points where it is needed for unloading of ramp. After ramp has been lowered to ground and is ready for service, the hand truck is moved down it to clear the deck of the car for movements of tractors and trailers. Ramp is a welded assembly of structural steel sections.

● **Joint project.** The ramp cost approximately $6,800. It was developed jointly by W. M. Lutts, L&N's engineer work equipment-development, and the builder, the Transport Products Corp., of Louisville, Ky.



PORTABLE RAMP is pulled from its rail-haul position by cable which is driven by hydraulic unit mounted on hand truck. Rollers on ramp are guided by channels on flat-car deck as it is moved out to be made ready for service.



TWO SETS of wheels are lowered to ground so that only end of ramp rests on flat car. After rear wheels are locked in position, cable pulls ramp free of car. Hydraulic unit's winch function is then complete.

ACTUATING CYLINDERS, powered by hydraulic unit, lower front set of wheels so leading end of ramp rests on ground. Rear of ramp is dropped by hydraulic cylinders to be flush with car so bridge plates may be lowered.

TRACTORS AND TRAILERS can now negotiate ramp and special flat car before moving to regular piggyback cars which would be coupled at far end. Reloading of ramp is accomplished by reversing the unloading procedure.

Jumbo hopper tested for unit-train use

Norfolk & Western is experimenting with the 150-ton giant in an attempt to keep its light weight down and its payload up.

The Norfolk & Western is exploring the 150-ton hopper car's potential in unit-train service. Test loads hauled in the prototype car (RA, Nov. 25, p. 66) have not revealed any limitations except those resulting from its large size and high gross weight.

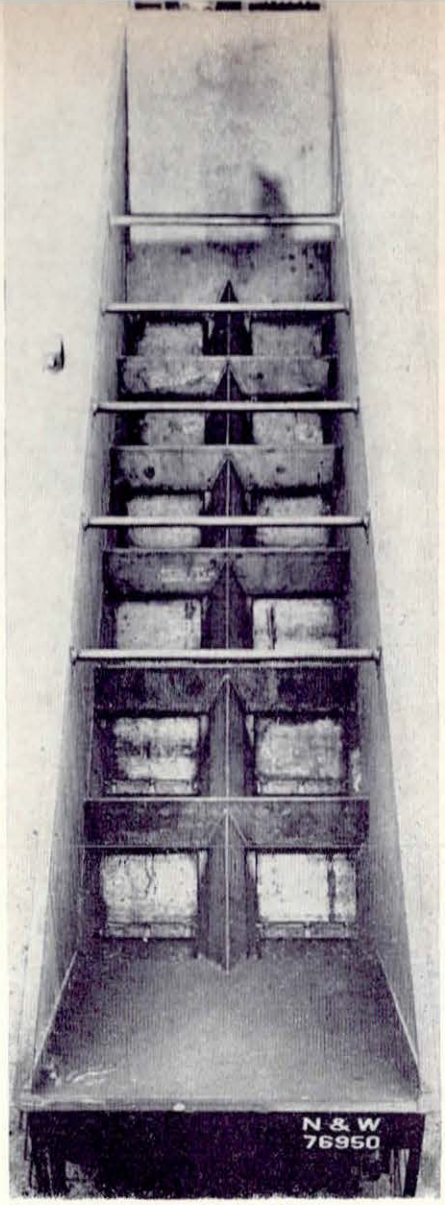
Service is from a specific originating point to a specific destination. The gross rail load of 394,500 pounds is too high for many roads and for that reason the car is not acceptable in general interchange service. Gross rail load is determined by the 6½ by 12-inch roller bearings that permit a rail load of 65,750 pounds per axle, or 263,000 pounds for a four-axle-truck, 394,500 pounds for a six-axle truck.

In the prototype car the N&W used second-hand six-wheel steam locomotive tender trucks that increased the light weight to 101,300 pounds. This means a maximum payload of 293,000 pounds, but with suitable trucks the N&W believes the light weight can be held to 94,500 pounds to permit a 150-ton payload. Although satisfactory trucks are not in production, six-wheel truck design is available that is acceptable.

The prototype car has a 62-foot inside length, a coupled length of 69 feet 3 inches. It is 13 feet high, has an inside width of 9 feet 9½ inches, an extreme width of 10 feet 7½ inches over top side angles. It is 52 feet 11 inches between truck centers. Trucks have a 9-foot wheelbase with equal spacing of 4 feet 6 inches between wheel centers.

Unloading is through six hoppers with 24 doors, essentially producing a wide open bottom for fast discharge. Although manually operated, the doors can be equipped for semi-automatic opening and closing. Only a limited number of rotary car dumpers could handle this car because of its size and weight.

Side sheets are 3/16-inch low-alloy, high-tensile steel for strength and corrosion resistance. Hopper sheets are 3/16-inch stainless clad steel for faster unloading.



Overhead view of N&W's 150-ton hopper

Music to ride the train by

Four New York area railroads tried a new twist in promoting off-peak passenger travel, combining efforts in a week-long radio contest. If successful, it might be repeated for other holidays.

Suburban housewives in the New York area were wooed with music and gifts last week—but not by their husbands, by four railroads.

In an unprecedented move, the Pennsylvania, New York Central, Long Island and New Haven combined forces to actively promote passenger travel during off-peak hours. The carriers enlisted the aid of radio station WNBC, the New York outlet for the National Broadcasting Company, to spread the travel messages to a four-state area.

During the entire week, eight hours of music, interviews and plugs for rail passenger travel were broadcast daily from various areas of Grand Central and Pennsylvania stations.

Highlight of the promotional campaign was a "Christmas Commuting to New York" contest that offered 20 bicycles and 40 cameras as prizes. Another 100 winners got one-day round-trip tickets to New York on the railroad serving their area.

The joint venture to stimulate off-peak riding was the creation of Long Island's Passenger Vice President Henry A. Weiss, and Eugene Heissenbuttel, passenger sales manager. The LI has successfully used radio campaigns in the past over local stations in its territory for promoting its passenger services.

Entry cards for the contest were distributed on trains of the four participating railroads. Post cards were also accepted.

"If we can get more people to try the trains—especially the ladies—they might stay with us the rest of the year," one passenger representative commented. "At least it's worth the try."

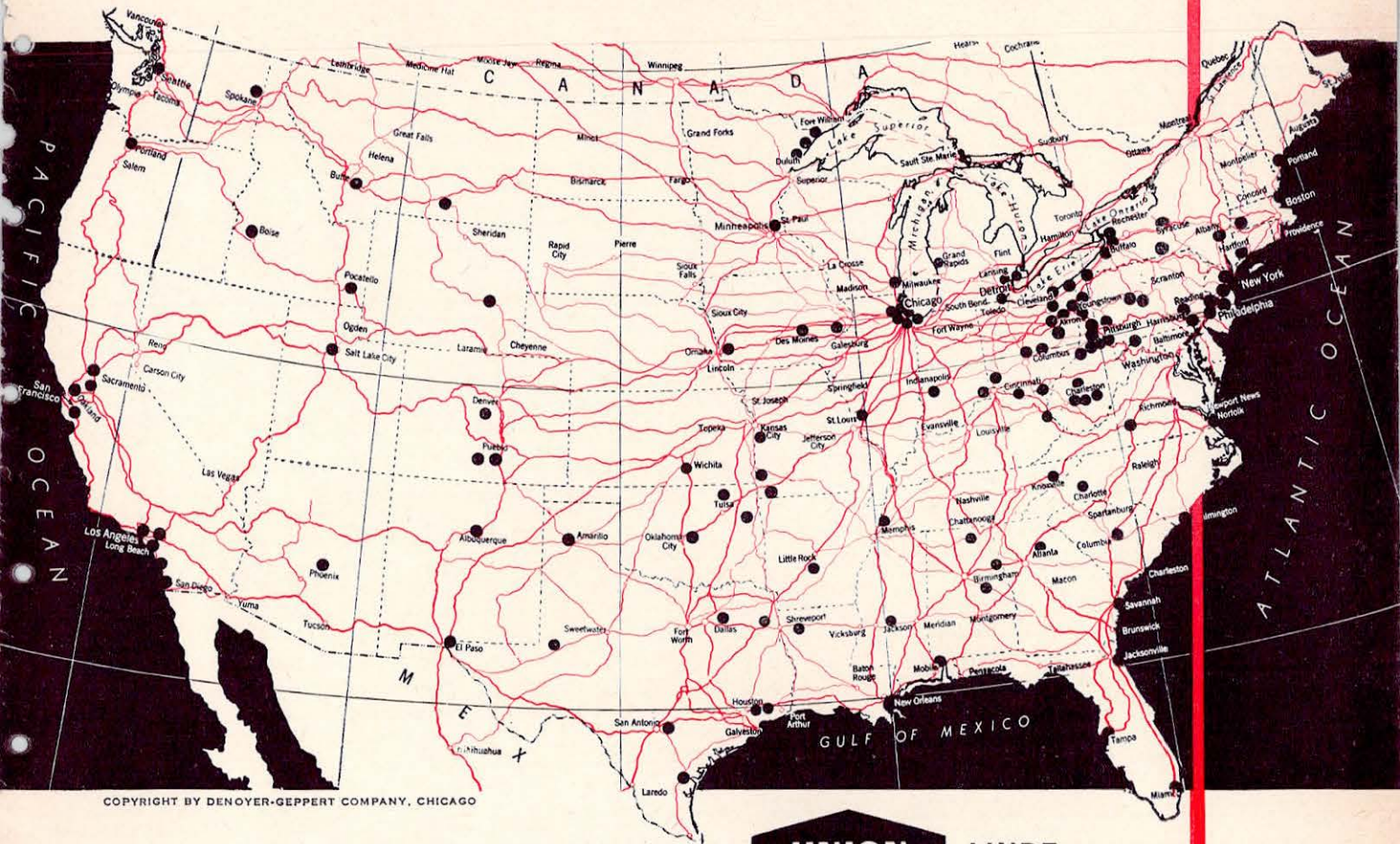
Your road's map to service

From the Boston and Maine to the Southern Pacific—from the Great Northern to the Florida East Coast—LINDE, through an earlier affiliation and the Oxweld Railroad Department, has been serving the nation's railroads for over fifty-five years. Wherever railroads expanded, LINDE went along to serve them and the industries that followed.

We're grateful to the nation's railroads. Without them, it would be extremely difficult to serve our customers economically. LINDE, like other major suppliers and manufacturers, depends on railroads for efficient distribution. LINDE's production and distribution of oxygen, argon and other industrial gases would be severely hampered without our fleet of railroad cars. As the map indicates, our network of production plants and storage stations covers strategic rail points throughout the nation. Whatever your requirements—liquid gases for storage tanks, liquid in portable cylinders, or gas in high pressure cylinders—LINDE can serve you efficiently and economically.

You'll find the same high standard of performance in other Oxweld Railroad Department operations. For example, our service and sales engineers work closely with your specialists to solve your gas and electric welding problems. They continually seek new products, processes and materials that will help you streamline your mechanical and engineering operations.

Union Carbide Corporation, Linde Division, Oxweld Railroad Department, 270 Park Ave., N. Y., N. Y. 10017 or 230 North Michigan Ave., Chicago, Ill. 60601.



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OXWELD Railroad Department

UNION CARBIDE LINDE DIVISION

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Weight-distance rates are urged

Here's a proposal to win tonnage back from private trucks by establishing weight-distance rates on freight not moving by rail.

By John C. McMichael*

The availability of an ever increasing mileage of ever improving highways, with low gradients for high speeds and economical operation, has had the natural effect of diverting an increasing volume of traffic to the highways. While statistics are available showing the growth of common carrier motor carriage, there has not been until lately any estimate of the total volume of all motor carriage. The figures shown in Table I are monies spent for freight transportation service with all modes.

Using the year 1959 as a base of 100 the percentage change in traffic distribution is shown in Table II.

Tables I and II are derived from estimates published by the Transportation Association of America. The figures indicate that private carriage by highway (i.e., that designated "Non-ICC Regulated" in the tables) is the fastest growing segment of freight transportation and constitutes a serious threat to the common carrier industry, more particularly to the railroad carriers. Chart I is taken from a collection of transportation statistics compiled by the Competitive Transportation Division, Association of American Railroads. The division has gathered from authoritative sources statistics of intercity ton-miles by railroads, motor carriers and water carriers. The chart shows the relative changes of these various modes for the years 1947 to 1960. "Unregulated Trucks" (the top line of the chart) are comprised primarily of private trucks (those which haul the owners' own freight).

Evidences of private trucking are apparent on every main highway. Where, several years ago, trucks bore the names of trucking companies, today the majority of them bear the names of industrial owners. In other words, many producers are hauling their own products, rather than employing the services of for-hire carriers.

An article in the Nov. 5, 1962, Railway Age—reporting a conference at the Northwestern University Transportation Center (Oct. 29-30, 1962) indicates the reasons for the up-surge in this kind of private transportation. The Center's economists, Dr. Arthur P. Hunter, Jr., and Dr. Walter Y. Oi, reported that at least 18,000 industrial firms have their own fleets of trucks—ranging in number from 10 to as many as those of the largest fleets of common carrier truck operators.

The research revealed that private trucking is particularly advantageous to shippers for short-haul movements ranging from 25 to 200 miles. While the large concentration of movements may be in this area, experience has shown that there is also a tremendous movement in distances from 250 to 900 miles. It is obvious that private carriage offers some economic advantages, particularly for shorter hauls. Common carrier trucks also have a cost advantage over railroads for the shorter hauls. Chart II portrays comparisons of relative estimated costs.

Other advantages of truck transportation include flexibility (to go when and where needed); savings in packaging, bracing and blocking expense; quicker transit time; better control of inventory.

Simply stated, the problem for the railroads is what to do about the adverse trend of freight traffic and earnings evidenced in the foregoing. Professors of economics and transportation have written books; committees under private, institutional and governmental auspices have made report after report; seminars and conferences have been held—all proposing remedies. Can it be that these are too broad and sweeping, too numerous or not specific enough? Some progress is being made here and

TABLE I—The Nation's Freight Bill

(Millions of Dollars)

	1959	1960	1961
Highway			
Truck-Intercity			
ICC regulated ...	7,087	7,155	7,216
Non-ICC regulated	11,374	11,388	11,798
Truck—Local	9,965	10,131	10,632
Rail	8,965	8,665	8,395
Water	1,379	1,411	1,352
Oil pipeline	1,007	1,013	1,037
Freight forwarder	445	437	428
Air	203	222	299

TABLE II—The Nation's Freight Bill

(Index 100—year 1959)

	1959	1960	1961
Highway			
Truck-Intercity			
ICC regulated ...	100	100	105
Non-ICC regulated	100	101	107
Rail	100	97	93
Water	100	101	99
Oil pipeline	100	101	102
Freight forwarder	100	98	96
Air	100	105	148

*Mr. McMichael is manager, freight rates, Pennsylvania. This article is adapted from a paper presented to the XI Pan American Railway Congress in Mexico (October 18-31, 1963) and which won for the author a cash prize and a diploma. Opinions and recommendations in the article are the author's —and are not necessarily either those of his railroad, or of the Commercial Research Department, Traffic Executive Association, Eastern Railroads (with which the author was associated for a time on leave of absence).

there in solving the railroads' competitive problem, but such steps come too slowly. One step forward seems to be accompanied, often, by slipping two steps backward.

"Piggybacking" is working wonders. Its phenomenal growth is doing much to forestall more rapid expansion of private trucking. Containerization (i.e., the piggyback principle, but using smaller units) seems to hold promise. So, too, faster scheduling of trains and reduction of delays at railway terminals are playing their part.

Then there is the matter of pricing of railway freight service, which admittedly is, in many cases, unsatisfactory. There are some who would throw away present methods of pricing and start anew. They feel that the mile of shelf space now needed to contain the current price catalogs (i.e., tariffs) of common carriers is an indication that something is very much awry.

This writer does not advocate discarding outright present pricing practices. Under present pricing methods vast quantities of freight are moving at charges which satisfy the needs of both shippers and carriers. Rate adjustments are in a constant state of flux, responsive to constantly changing conditions. There are some movements (e.g., gasoline from refineries and bulk stations to automobile fueling stations) that could not move by rail, regardless of any service or rates offered by railroads—short of their going into the trucking business themselves.

The $11.8 billion (See Table I) of unregulated, mostly private, motor truck traffic would appear to offer the greatest field for the railroad industry to regain lost business and thus improve its earnings. The main trouble in tackling this problem is that United States railroad people do not at this time know much about the composition of the traffic moving by highway in private (i.e., not for-hire) trucks. It is expected that the forthcoming census of transportation may provide much needed information in this sector.

If so, the railroads' approach to this problem can be more knowledgeable. Meantime the railroads must assume that the goods moving in private trucks run the full range of commerce. This assumption can be safely based on the wide diversity of trade names to be seen on the sides of trucks moving along the main highways of the country.

Lacking specific knowledge, it is impossible to pinpoint each and every movement and give it the special railroad rate treatment necessary to attract it to profitable movement by rail. Nor can it be assumed that in the present mile-long shelf of rate tariffs there is already a rate that reflects economic and competitively attractive pricing;

CHART I—Relative changes, intercity ton-miles

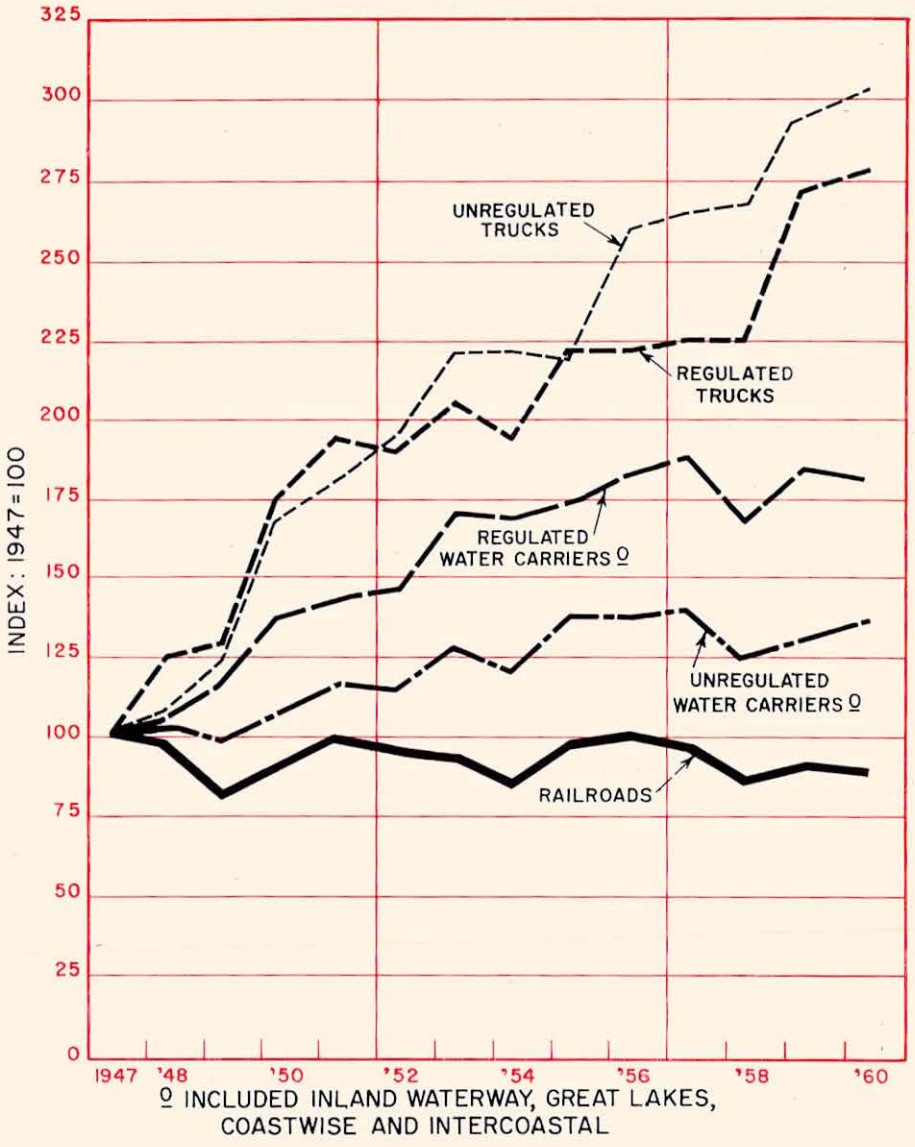
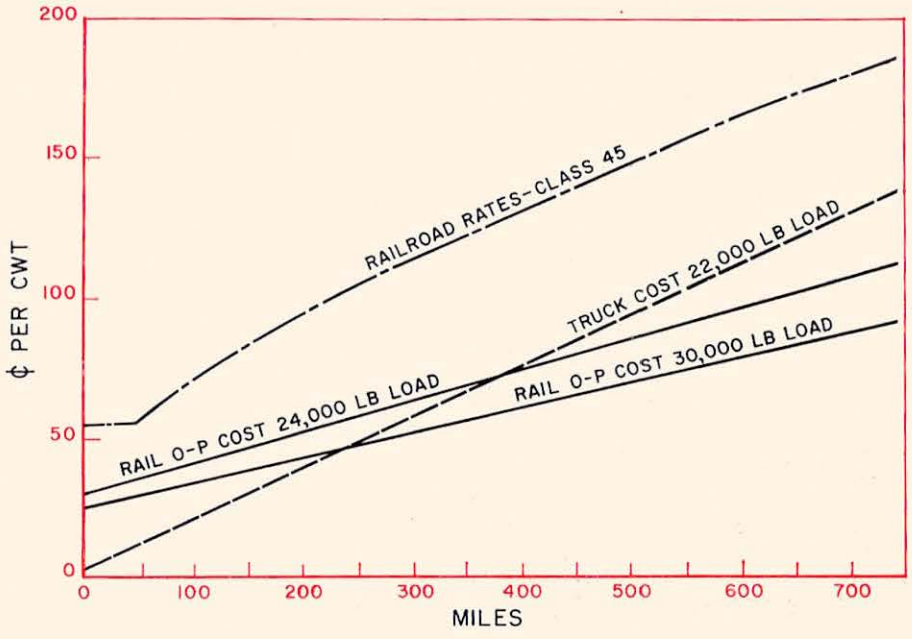


CHART II—Relative cost, truck and rail



Suggested weight-distance scales for 'no-move' freight

(Costs and rates are shown in cents per 100 pounds—Revenue is shown in dollar per carload)

Miles	A 150 cwt. Cost	Rate	Rev.	B 180 cwt. Cost	Rate	Rev.
100	65	72	108	54	60	108
200	81	90	135	68	76	136
300	98	109	163	83	92	165
400	115	132	198	97	111	199
500	132	165	247	111	138	24[illegible]
600	149	198	297	125	166	298
700	165	231	346	140	194	349
800	182	264	396	154	221	397
900	199	297	445	168	249	448
1000	216	330	495	182	276	496
1100	232	363	544	196	304	547
1200	249	396	594	211	331	595
1300	266	429	643	225	359	64[illegible]
1400	283	462	693	239	386	694
1500	299	495	742	253	414	745
1600	316	528	792	267	441	793
1700	333	562	843	282	469	844
1800	350	595	892	296	496	892

Miles	H 270 cwt. Cost	Rate	Rev.	J 300 cwt. Cost	Rate	Rev.	K 315 cwt. Cost	Rate	Rev.	L 330 cwt. Cost	Rate	Rev.	M 350 cwt. Cost	Rate	Rev.
100	37	41	110	33	37	111	32	36	113	31	34	113	29	32	113
200	47	52	140	43	47	141	41	45	141	39	43	141	37	41	143
300	57	63	170	52	57	171	49	55	173	47	53	174	45	50	175
400	57	76	205	61	69	207	58	66	207	56	63	207	53	59	207
500	77	94	253	70	85	255	67	81	255	64	78	257	61	74	259
600	87	112	302	79	102	306	76	97	306	73	93	306	69	88	308
700	97	131	353	88	118	354	84	113	355	81	108	356	77	102	357
800	107	149	402	97	135	405	93	128	405	89	123	405	85	116	406
900	117	167	451	106	151	453	102	144	453	98	138	455	93	130	455
1000	126	186	502	115	168	504	111	160	504	106	153	504	101	144	504
1100	136	204	550	124	184	552	119	176	554	115	168	554	109	159	556
1200	146	222	600	134	201	603	128	191	603	123	183	603	117	173	605
1300	156	241	650	143	217	651	137	207	652	131	198	653	125	187	654
1400	166	259	699	152	234	702	145	223	702	140	213	702	133	201	703
1500	176	277	748	161	250	750	154	239	752	148	228	752	141	215	752
1600	186	296	799	170	267	801	163	254	801	157	243	801	149	229	801
1700	196	314	847	179	283	849	172	270	850	165	258	851	157	244	854
1800	206	333	899	188	300	900	180	286	900	173	273	900	165	258	903

even if the rate is in the tariffs, the private hauler probably does not know it is there.

Railroad freight rates in the United States may be divided into three types: (1) "class rates," (2) "exceptions ratings" and (3) "commodity rates." The so-called class rates are formal scales, related to each other by percentages, with 100% as a base. Each commodity known to move in commerce is assigned to one of these classes—and these ratings will determine the actual charges, unless "exceptions" or "commodity" ratings are available—as they usually are. The relative uselessness of the class rate structure does not lie in complexity. It is not complex. On the contrary, it provides a simple and direct means of finding a rate for moving a commodity anywhere. The first step in finding the appropriate class rate is to ascertain the class to which an article is assigned. This can be learned by referring to the tabulation of thousands of articles, known as the "Uniform Classification." Then another tariff is used to determine the geographical rate basis to be used. Finally one turns to a class rate tariff which gives the conventional mileage between rate bases and, under the appropriate class for the specified distance, the rate is shown.

The fault of the class rate structure lies in its competitively unrealistic rate of increment for distance progression. In its lower mileages—40 to 500 miles—the rate of progression is competitively too "steep"; in the longer mileages the rate of progression flattens out too much (see top line, Chart II). It bears no relation whatsoever to the railroads' cost curve, which has the form of a straight line. There are reasons why railroad charges should not parallel the cost line precisely. Probably the most important of these reasons lies in the fact that the United States is a country of vast distances. In railroads' efforts to promote nationwide commerce they cannot afford to stifle long hauls by strict adherence to a cost related formula. So it is acceptable doctrine that there should be some "taper" in the progression of a scale. The class rates are "ceiling" rates. They move only an estimated 3% of railroad traffic.

Chart II portrays the exaggerated rate of increase in the lower mileages of the class rate progression; the flattening out of the scale in longer distances; and railroad cost lines. When the class rate curve is compared with the rail cost lines the impression will be confirmed that the present class rate scale is entirely inadequate to meet the competitive costs of private trucking (also shown in the chart).

"Exceptions" and "commodity rates" are a bit more complicated than class rates. Exceptions ratings generally apply to a specified commodity. They are

Miles	C 200 cwt. Cost	Rate	Rev.	D 210 cwt. Cost	Rate	Rev.	E 225 cwt. Cost	Rate	Rev.	F 240 cwt. Cost	Rate	Rev.	G 250 cwt. Cost	Rate	Rev.
100	49	55	110	47	52	110	44	49	110	41	46	110	40	44	110
200	62	69	138	59	66	138	56	62	139	52	58	139	50	56	140
300	75	83	166	72	79	166	67	74	166	63	70	168	61	68	170
400	88	100	200	84	96	201	79	90	202	74	84	202	72	81	202
500	101	125	250	96	119	250	90	112	252	85	105	252	82	101	252
600	114	150	300	109	143	300	102	134	301	96	126	302	93	121	302
700	127	175	350	121	167	350	114	156	351	107	146	351	103	141	352
800	140	199	398	134	190	399	125	178	400	118	167	400	114	161	402
900	153	224	448	146	214	449	137	200	450	129	188	451	125	180	451
1000	165	249	498	158	237	498	149	222	499	140	208	499	135	200	500
1100	178	274	548	171	261	548	160	244	549	151	229	549	146	220	550
1200	191	299	598	183	285	598	172	266	598	162	250	600	157	240	600
1300	204	323	646	195	308	646	184	288	648	173	270	648	167	260	650
1400	217	348	696	208	332	697	195	310	697	184	291	698	178	279	698
1500	230	373	746	220	355	746	207	332	747	195	312	748	189	299	748
1600	243	398	796	233	379	796	219	354	796	206	332	796	199	319	797
1700	256	422	844	245	403	846	230	376	846	217	353	847	210	339	847
1800	269	447	894	257	426	894	242	398	895	229	373	895	220	359	897

Miles	N 360 cwt. Cost	Rate	Rev.	P 390 cwt. Cost	Rate	Rev.	Q 400 cwt. Cost	Rate	Rev.	R 420 cwt. Cost	Rate	Rev.	S 450 cwt. Cost	Rate	Rev.
100	28	32	115	26	29	115	26	29	116	25	28	117	23	26	117
200	36	40	144	34	37	144	33	37	148	31	35	148	30	33	148
300	44	49	176	41	46	179	40	45	180	38	43	180	36	40	180
400	52	58	208	48	54	210	47	53	212	45	50	212	43	47	212
500	60	72	259	56	67	261	54	65	261	52	62	261	49	58	261
600	67	85	308	63	79	308	62	77	308	59	74	310	56	69	310
700	75	99	357	70	92	358	69	90	360	66	86	361	62	80	361
800	83	113	406	78	105	409	76	102	409	73	98	411	69	91	411
900	91	127	457	85	117	457	83	115	460	80	109	460	75	102	460
1000	99	141	507	92	130	507	90	127	508	87	121	508	82	113	508
1100	106	154	556	99	143	557	97	139	557	94	133	558	88	124	558
1200	114	168	605	107	156	608	105	152	608	100	145	609	95	135	609
1300	122	182	655	114	168	655	112	164	656	107	157	659	101	146	659
1400	130	196	705	121	181	705	119	177	708	114	168	708	108	157	708
1500	138	209	752	129	194	756	126	189	756	121	180	756	115	168	756
1600	146	223	802	136	206	803	133	201	804	128	192	806	121	179	806
1700	153	237	854	143	219	854	140	214	856	135	204	856	128	191	859
1800	161	251	903	151	232	904	148	226	904	142	216	907	134	202	909

Miles	T 480 cwt. Cost	Rate	Rev.	U 500 cwt. Cost	Rate	Rev.	V 510 cwt. Cost	Rate	Rev.	W 540 cwt. Cost	Rate	Rev.	X 600 cwt. Cost	Rate	Rev.
100	22	24	117	21	24	120	21	23	120	20	22	120	18	20	120
200	28	31	148	27	30	150	27	30	153	25	28	153	23	26	156
300	34	38	182	33	37	185	32	36	185	31	35	189	28	32	192
400	40	45	216	39	43	216	38	43	219	37	41	221	34	38	228
500	47	55	264	45	53	265	44	52	265	42	49	265	39	45	270
600	53	65	312	51	63	315	50	62	316	48	59	318	44	53	318
700	59	76	364	57	73	365	56	72	367	54	68	367	49	62	372
800	65	86	412	63	83	415	62	81	415	59	77	415	55	70	420
900	71	96	460	69	93	465	68	91	465	65	86	465	60	78	468
1000	78	107	513	75	103	515	74	101	515	71	95	515	65	86	516
1100	84	117	561	81	112	561	80	110	561	76	105	567	70	95	570
1200	90	127	609	87	122	610	86	120	612	82	114	615	76	103	618
1300	96	138	662	93	132	662	92	130	663	88	123	664	81	111	666
1400	103	148	710	99	142	710	98	140	714	93	132	714	86	119	714
1500	109	158	758	105	152	760	104	149	760	99	141	761	91	128	768
1600	115	169	811	111	162	811	110	159	811	105	150	811	97	136	816
1700	121	179	859	117	172	860	116	169	861	111	160	864	102	144	864
1800	127	189	909	123	182	910	122	178	910	116	169	912	107	152	912

'Simplified rates based on weight and distance wi

usually stated as a percentage of first class and embrace all distances within a given rate territory. They are almost as easy to find in the tariffs as class rates. However, they do require somewhat more practice and careful searching.

Commodity rates occupy the larger part of the "mile of tariffs" on the shelves. Even an intimate daily working knowledge of tariffs will not equip one individual with the ability to locate and identify each of many millions of commodity rates. Thus, it is not to be wondered at that the shipper, who is already inclined to engage in private transportation, finds still another incentive to do so, in the complexities of railroad commodity tariffs.

It is the purpose here to set forth a concept of a simplified system of rates, to be based on weight carried and distance traversed—which it is believed will enable the railroads to stem the tide of private trucking.

The approach here outlined is, speaking in general terms, one that has been followed experimentally (by specific individual commodities) by the Commercial Research Department of the Traffic Executive Association, Eastern Railroads (hereafter referred to as CRD). The CRD has available abstracts of the Interstate Commerce Commission 1% waybill sample for traffic moving in Eastern territory. These abstracts, as finally completed and processed, record the commodity, identifying it by the AAR commodity classification number and by the item number in the Uniform Freight Classification. Also included is information as to weight, freight charges, origin and destination by state and county, names of originating and terminating railroads, distance traveled, type of car. This information is keypunched onto cards, which can be run through tabulating machines to organize the information for study and analysis. Later this information is put into a computer for any computations desired. Either by tabulation alone, or in conjunction with the computer, almost any kind of traffic analysis can be made.

The appearance of a commodity movement in the 1% sample gives no information on what proportion of total available traffic in that commodity the railroads may have enjoyed. With the help of other statistics, CRD can sometimes approximate the railroad ratio of total movement. Sometimes, and only in important phases of traffic, assistance of shippers is enlisted to provide information as to their division of traffic among various modes of transportation. However, this type of inquiry is not primarily concerned with the problem of meeting competitive forces on known movements of traffic, since these are usually taken care of by individualized rate adjustments.

The main concern in the inquiry here outlined lies with the vast volume of types of traffic not now moving by rail in any noticeable quantity. The traffic the railroads are not moving is readily signalized by the punched cards from the 1% waybill sample when Uniform Classification item numbers produce no waybill sample cards. These items of traffic (unless they are obsolete) form the core of the type of traffic that an exploratory effort such as this must aim to attract to the railroads.

The magnitude of this "core" of traffic which does not move in appreciable quantity by rail is indicated by the following figures. The Uniform Classification has 11348 entries of carload commodities with ratings. The statistics compiled by CRD reveal that in 1960, 9275 of these entries were not represented by a single carload in the 1% waybill sample.

An analysis of these "no moves" showed they were rated from 4 times first class (high) to 17½% of first class (low). This variation indicates the probability of a wide range of density, value and other factors which enter into the classification.

There is no necessary implication that the foregoing figures embrace all or even the majority of traffic moving by private trucks. This "core" does, however, appear to comprise a sufficiently large segment of traffic for a worthwhile experiment to determine whether it offers an opportunity for the railroads to recoup a considerable volume of traffic.

'Volume-distance' formula

Railroad transportation can be offered for sale on a "volume-distance" formula. The unit for most merchandise movement is the box car, having on the average about 3000 cu. ft. of usable space. The objective, therefore, should be to secure traffic utilizing this usable space—regardless of what the commodity may be. Obviously, the same weight of all commodities cannot be stowed into the same cubic space. This difference is of little moment, since it is a satisfactory per-car revenue yield that the railroads are looking for. The incremental cost of additional weight per loaded car is relatively low, when considered in the light of total carload cost.

One principle to observe in railroad transportation pricing is that out-of-pocket cost is the floor below which traffic should not be handled.* Another principle is that competitive transportation cost is the ceiling above which railroad prices cannot go if railroads are to handle the traffic.

Out-of-pocket rather than fully distributed costs should be the measure, because these represent the costs that occur merely by moving the traffic. Stated differently, out-of-pocket costs are those which would be avoided if the traffic in question were not handled.

The out-of-pocket costs which the CRD uses are those calculated by the use of the Interstate Commerce Commission's Rail "Form A" formula (ICC Bureau of Accounts Statement 3-60, prepared by Cost Finding Section). Form A is the guise in which annual reports are rendered by each Class I railroad to the ICC specifying their annual expenditures by numerous accounting categories. These are summarized by the ICC and average values are ascribed to major elements of transportation cost. with the necessary variables to fit specific situation. It is not contended here that these cost computations give accurate figures on each specific movement. On the other hand, for region-wide general application, Form A averages are the only ones presently available. For average or general conditions it is customary to use costs enumerated under "average trains in interline service." This paper is derived primarily from data applying to Eastern railroads.

Chart II portrays railroad costs as higher than truck costs in the lower mileages. Any computation of a rate scale must observe rail costs as the floor in that area. Since these are higher than truck costs and cannot be expected to attract much traffic, it is reasonable to incorporate a measure of profit in them. The reason for this is that, if the railroads do get some traffic in these mileages, it must be for some reason other than price, and they might as well make some money on it. For our purpose we have added 10% of the out-of-pocket cost as a profit element to the rate "floor."

Next we must estimate the probable cost of operating trucks. The ICC's cost finding section has attempted to ascertain such costs from annual reports filed by common carrier motor trucks. These have been averaged for various sections of the country and published

*Some analysts argue persuasively that "capacity costs" rather than historic out-of-pocket costs should be the "floor" in rate-making, but early acceptance of such a "floor" by the regulatory authorities seems hardly likely.

enable railroads to stem the tide of private trucking'

in pamphlet form. These publications have their value in revealing the costs of common carrier trucking. Private truck carriage is conducted under dissimilar circumstances; hence, private truck costs cannot be assumed to equal those of common carriers. It is necessary, therefore, to "engineer" private truck costs, from direct observation.

One thing peculiar to costing of truck operations is that no element of cost per hundredweight-mile, line-haul cost, or terminal cost per hundredweight is usually ascertained, as is done in rail costing. The essential factor in truck costing is the vehicle, either in the terminal or the line-haul. Thus the vehicle cost is assumed to be the same regardless of the load, whether it be 20,000 lb. or 40,000 lb. Obviously, the cost in terms of weight unit of lading is greater when the load is 20,000 lb. than if it were 40,000 lb.

The optimum or most favorable engineered costs so ascertained were estimated (this was for 1959—so the estimates are now outdated) to be as follows: fixed cost, 8.42¢ per mile, and variable costs 24.61¢ per mile, for a total cost of 33.03¢ per vehicle-mile.

The National Motor Truck Classification closely follows the descriptions published in the railroad Uniform Freight Classification and in most cases adopts for truck loads the same minimum weights as provided for rail carloads. However, it is a fact that the truckload minimum weights more nearly represent the carrying capacity of a truck, either in cube or in density, than railroad carload minima do the capacity of a fully loaded railroad car. Rail classification minimum weights generally represent only 50% to 67% of carrying capacity. Thus it would seem appropriate experimentally to establish in the proposed new competitive railroad scale minimum weights that would be 150% of the truckload minima.

Table III shows the relationship of these values. The computer input would be based on the weight factors set forth in the table.

The computer input may be programmed in the following manner:

(1) Rail "Form A" out-of-pocket costs for box cars in average trains moving over more than one railroad in the Eastern District, calculated in cents per 100 lb. of lading for various weights from 15,000 lb. to 60,000 lb.

(2) Truck costs on basis of 33.03¢ per vehicle-mile converted to cents per 100 lb. of lading based on weights varying from 10,000 lb. to 40,000 lb.

(3) Results to be shown as rates stated in cents per 100 lb. and in dollars per-car revenue of whichever (1) or (2) above produces the higher rate. The original computation included the rail cost figure as a matter of information. This disclosed that at light loads the railroads became competitive at about 340 miles, i.e., rail cost plus 10% profit became less than the cost of private motor carriage. With heavier weights the railroad figure became competitive at shorter distances.

TABLE III—Relationship of Truck and Rail Loadings

Truck Minimum Weight Lb. (000)	Rail Calculated Weight Lb. (000)	Column
10	15	A
12	18	B
—	20	C
14	21	D
15	22.5	E
16	24	F
—	25	G
18	27	H
20	30	J
21	31.5	K
22	33	L
—	35	M
24	36	N
26	39	P
—	40	Q
28	42	R
30	45	S
32	48	T
—	50	U
34	51	V
36	54	W
40	60	X

The first calculation was deficient in that it produced results that went counter to the "aggregate of intermediates" provisions of Section 4 of the Interstate Commerce Act. A new calculation had to be programmed which would test the rates and indicate where violations were found, so they could be adjusted to conform with regulatory rulings.

The final results of these calculations are shown (by 100-mile blocks) on pages 36-37 and serve as a suggested experimental rate table in a tariff aimed to compete with private trucking.

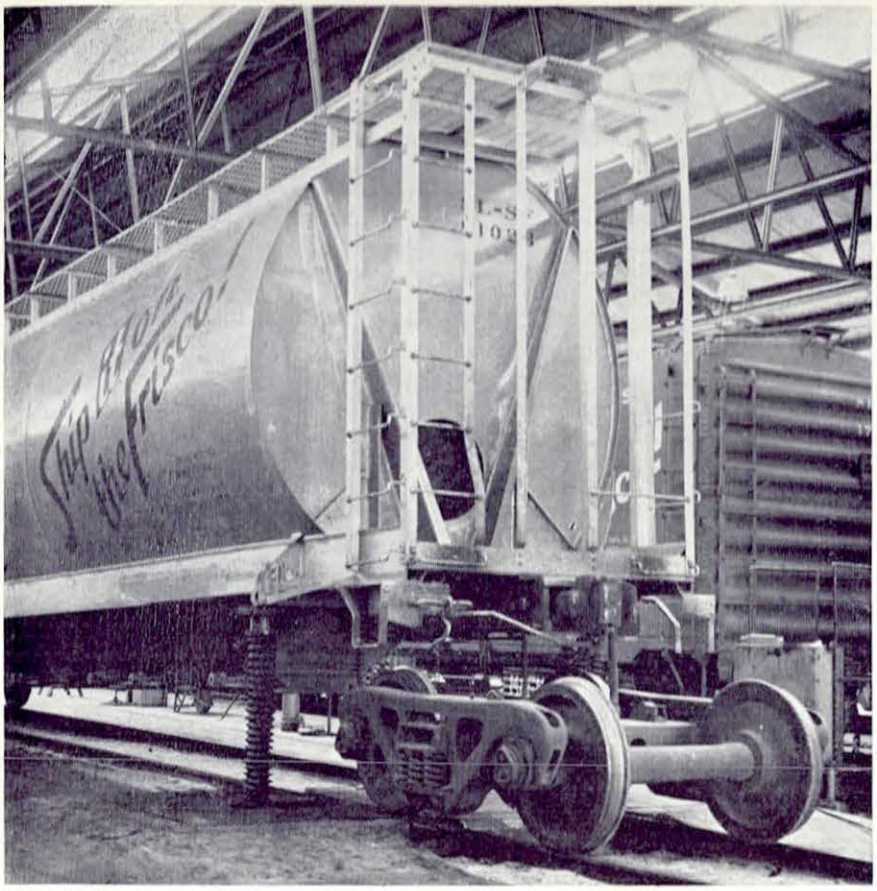
A tariff such as is here suggested needs rules governing its application. First among these is the list of commodities on which it should apply. It would not be wise to apply it to all commodities of the kind known as "no move." For example, regular tariffs provide a full line of rates on chemicals. The Uniform Freight Classification lists approximately 450 separate chemicals. It is conceivable that several of the more rare chemicals have not moved in carload rail service. Even though these would appear in a list of "no moves," they would properly be subject to the chemical rates and should not be included in the "no move" tariff. Consequently the list of "no moves" would have to be screened and commodities eliminated from it—where there are other tariffs providing adequate rate scales.

When the list of commodities is determined, which are not moving by rail and for which there is no evidence that effective rates are now available, the list would be published in a proposed new tariff, together with assigned minimum weights or designated columns to apply at different minima. Alternative application would be provided so that, if the shipper elected to load in excess of the minimum weight, he could secure the advantage of the lower rate columns.

Indeed, this provision affords a great incentive for a shipper. For example, say his shipment qualifies under Column Q at 40,000 lb. If he elects to load 50,000 lb. and is shipping for a distance of 500 miles he pays $265 under Column U for the total amount, or only $5 for the added 10,000 lb. above the basic charge of $260 for the required 40,000 lb. Thus his rate for the total shipment is reduced to 53¢ per 100 lb., compared with 65¢ per 100 lb. if he had shipped only 40,000 lb.

The proposed tariff should be subject to all the usual privileges accorded ordinary freight (e.g., stop-offs to complete loading or partially to unload) with the exception of Rule 24 of the Uniform Freight Classification. This is a rule which permits the use of an extra car to take care of the "overflow" from a fully loaded car. This restriction is necessary, since the proposed rates are designed for the complete utilization of a car—hence cannot consistently encompass lightly loaded "overflow" cars.

Ascertainment of rate bases to be



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The St. Louis-San Francisco Railroad needed a new ripjack for their Memphis, Tennessee yards. Someone decided to call in a Whiting rolling stock maintenance engineer. John McLaggan, Sr., Supervisor of Tools & Special Equipment of the Frisco reports:

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used in conjunction with the proposed tariff would be identical to the process described above for determining what present class rates are.

It is realized that the costs used in the foregoing outline are, by now, out-of-date and, for actual use, would have to be modified to take account of changes. This observation, of course, applies equally to the suggested rates, based on these cost estimates. The program outlined here is the writer's own —not that of the Commercial Research Department. That department has been pursuing experiments with rates on individual commodities—not the comprehensive plan here suggested.

The basic thought behind this approach to railroad rate-making is that, wherever highway carriers are operated by producers of the freight they carry, the railways are confronted with the necessity of basing their rates—sooner or later—on the comparative cost of rail and highway transportation, rather than on the value of the commodities transported.

Current Publications

NEW BOOKS

THE TWILIGHT OF STEAM LOCOMOTIVES, by Ron Ziel. 208 pages, 275 photographs in color and black and white. Grosset & Dunlap, 1107 Broadway, New York, 10010. $5.95.

REBEL OF THE ROCKIES; A History of the Denver and Rio Grande Western Railroad, by Robert G. Athearn. 395 pages, illustrations, maps. Yale University Press, New Haven, Conn. $10.

PROCEEDINGS OF THE ASSOCIATION OF AMERICAN RAILROADS MECHANICAL DIVISION, 1962. 614 pages, drawings, tables. Association of American Railroads, 59 East Van Buren St., Chicago 5. $12. Limited number of copies available.

DIESELS WEST! THE EVOLUTION OF POWER ON THE BURLINGTON, by David P. Morgan. 164 pages, illustrations, end-paper maps. Kalmbach Publishing Company, 1027 North Seventh St., Milwaukee 3. $9.75.

TRAFFIC MANAGEMENT, by Kenneth U. Flood. Second Edition., 505 pages. Wm. C. Brown Company, 135 South Locust St., Dubuque, Ia. $8.

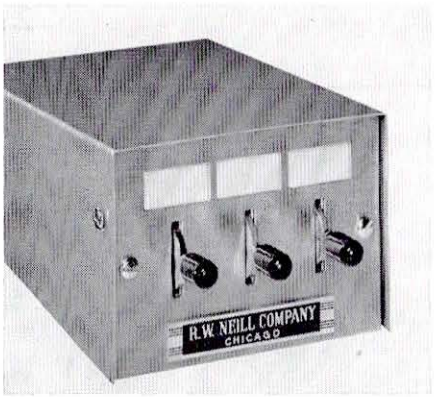
INTEGRAL TRAINS. 75 pages, illustrations, tables, drawings. Railway Systems & Management Association, 163 East Walton Street, Chicago 11. $5.

BULLETIN NO. 109. 68 pages, illustrations. The Railway & Locomotive Historical Society, Inc., Baker Library, Harvard Business School, Boston, Mass. $2 to members; $3 to non-members.

BACKWOODS RAILROADS OF THE WEST; A PORTFOLIO, by Richard Steinheimer. 107 pages, 203 illustrations. Kalmbach Publishing Co., 1027 N. Seventh St., Milwaukee 3, Wis. $20.

HOOT TOOT & WHISTLE; THE STORY OF THE HOOSAC TUNNEL & WILMINGTON RAILROAD, by Bernard R. Carman. 44 pages, illustrations. The Stephen Greene Press, Brattleboro, Vt. Softcover, $1.50; hardcover, $3.50.

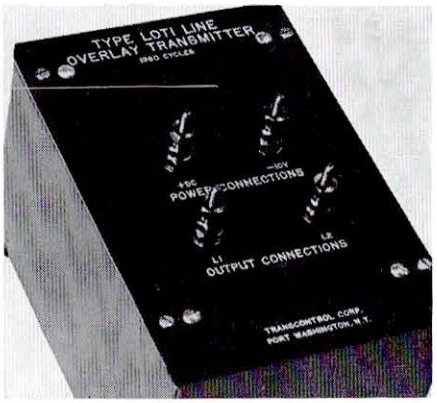
NEW PRODUCTS REPORT



Desk Keyboxes (RA-1)

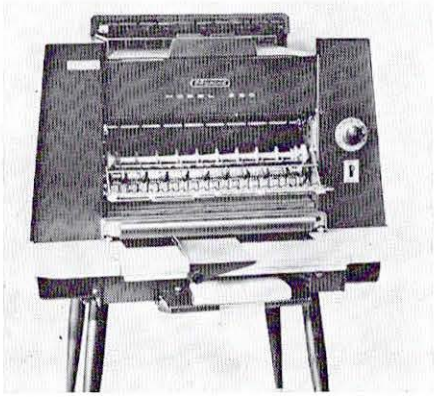
Newly-designed, functional desk keyboxes are now available to perform many control switching requirements. The new 1003-D series is furnished with 1, 2, or 3 telephone-type lever key switches, in any locking, non-locking, two-position, or three-position configuration. The 1006-D is furnished with 4, 5, or 6 level key switches.

The 1003-D series has 16 solder-lug terminals and the 1006-D series has 32 terminals. *R. W. Neill Co.*



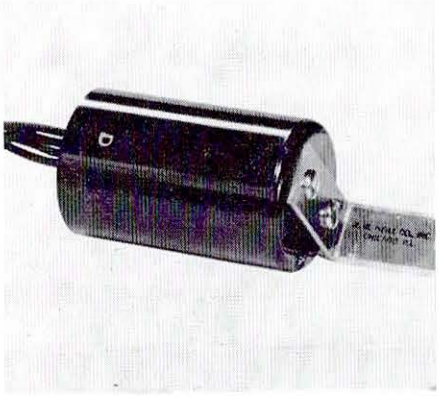
VF Line Overlay (RA-2)

A new voice frequency line overlay system, with built-in surge protection, features transistorized transmitters and receivers which have a built-in coupler unit. The system is available with any of 23 frequencies ranging from 420 to 3,060 cps. The primary and secondary of the coupling transformer are physically separated, and will withstand a 10,000-volt breakdown test. The receiver has a built-in output relay. *Transcontrol Corp.*



Copy Machine (RA-3)

The model 280 Copyflex turns out up to 1,500 expense or waybill copies per hour at a cost of one cent each for materials. It saves up to 7 hours of typing per day, reports the manufacturer. The only requirement is that the original document be translucent. Other applications of the model 280 include copying passing reports, switching waybills, over, short and damage reports, consists, messages and trans-loading and icing reports. *Charles Bruning Co.*



Bridging Filter (RA-4)

The F-9226 bridging-type filter is designed to minimize losses to superimposed carrier frequencies above 4 kc on open wire circuits due to the capacitive effects of drop wires, entrance cables, and telephone equipment on the line.

The filter will have a bridging loss at carrier frequencies above 4 kc of less than 0.05 db and a bridging loss at voice frequencies below 3 kc of less than 0.1 db. *R. W. Neill Co.*

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NEW PRODUCTS REPORT

Box-Car Cleaner (RA-6)

Fremont 328 box-car cleaner has been field tested and is now used to remove road soil, grease and oil from exteriors cars. It is said to be fast acting and safe on all coatings. According to manufacturer, chemical consumption is low because of high product concentration. Reduction in labor is said to be approximately 75%. An average total cost, including ½ hr labor, is given as $2.51. *Fremont Industries.*

Tank-Car Heater (RA-5)

Tank-car contents can be heated en route with the Electro/Temp, a diesel-powered electric heater which will "not only safeguard the quality of the heat-sensitive materials, but will speed unloading at the destination as the hot cargo flows more freely and can be used immediately." Because of faster turnaround, it is said, seven cars carrying hot liquid product can now transport as much bulk commodity as ten could previously. The engine of the diesel-driven generator set atop car burns No. 1 or No. 2 diesel oil, depending on the season, at about ½ lb per hr per hp at full load. Fuel consumption averages slightly over 2 gallons per hr. The 8,000-gallon car illustrated is equipped to maintain sugar syrup at a temperature between 110 and 120 deg F during shipment. A similarly equipped car could carry concentrated 73% caustic. Two other SHPX heater-equipped cars are said to have successfully completed months of trial transporting liquid margarine oil and molten pitch. *Hynes Electric Heating Co.*

Hydraulic Draft Gear (RA-7)

The Hy-Draft hydraulic-mechanical draft gear, completely interchangeable with conventional types, is designed to fit the standard 24⅝-in pocket. No special tools are required for installation, and it is reported that the gears can be installed at the rate of one car set per hour. Hy-Draft has a total stroke of 6-in.—4 in. in draft; 2 in. in buff. Tests are said to show the device has the capacity to protect the car and lading at speeds up to about 8 mph, at 500,000-lb reaction force. At 18,000-ft/lb mechanical capacity keeps the draft gear in working position when train is going up or down grade. Due to the double-acting hydraulic arrangement, there is little or no recoil even though the high-capacity rubber springs are used to provide the mechanical capacity. The controlled action of the Hy-Draft is said to improve train action because it eliminates the neutral position when going from buff to draft or vice versa. All steel used in the gear is high-tensile and hydro-tested. The rubber springs are oil- and ozone-resistant. *Ajax-Consolidated Co.*

Industrial Battery (RA-8)

The 75TR car-lighting and air-conditioning battery provides a 25% increase in capacity without increasing cube dimensions of batteries commonly used by railroads. Plates per cell range from 9 to 45. The 75TR-21 is rated at 750 amp-hr. A comparable size KAZ-21 battery is rated at 600 amp-hr. Like other G-N batteries, the 75TR has molded hard-rubber monobloc containers and self-closing vent caps. *Gould-National Batteries.*

Tank Washer (RA-9)

The Transport Tank Washer is said to provide complete and thorough cleaning of all interior surfaces of tank cars up to 48-ft in length. Two jet washer discs on a motor-driven head, which oscillates every 20-sec, deliver 115 gpm in a fan-like spray at 50 psig. The 58-in. stainless steel unit extends 48 in. into the tank in operating position. Other components include a ¼-hp motor and 2-in.-diameter pipe to carry cleaning solution. *Wyandotte Chemicals.*

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12/16/63

Market Outlook

Carloadings up 19.6% above previous week's

Loadings of revenue freight in the week ended Dec. 7 totaled 558,180 cars, the Association of American Railroads announced on Dec. 12. This was an increase of 91,416 cars, or 19.6%, compared with the previous week; an increase of 20,839 cars, or 3.9%, compared with the corresponding week last year; and a decrease of 4,851 cars, or 0.9%, compared with the equivalent 1961 week. Ton-miles generated by carloadings in the week ended Dec. 7 are estimated at 12.2 billion, an increase of 8.1% over the corresponding week of 1962 and an increase of 9% over the 1961 week.

REVENUE FREIGHT CARLOADINGS
For the week ended Saturday, Dec. 7

District	1963	1962	1961
Eastern	76,354	75,638	82,103
Allegheny	87,611	83,713	91,633
Pocahontas	55,682	45,672	53,421
Southern	112,517	112,189	111,908
Northwestern	62,794	60,219	61,885
Central Western	124,361	121,552	122,622
Southwestern	38,861	38,358	39,459
Total Western Districts	226,016	220,129	223,966
Total All Roads	558,180	537,341	563,031
Commodities:			
Grain and grain products	55,445	53,370	58,383
Livestock	3,157	3,701	3,828
Coal	116,529	99,026	107,613
Coke	7,361	6,906	7,947
Forest Products	38,283	36,775	37,440
Ore	19,463	14,910	17,307
Merchandise l.c.l.	14,233	20,010	25,323
Miscellaneous	304,709	302,643	305,190
Dec. 7	558,180	537,341	563,031
Nov. 30	466,764	562,263	572,800
Nov. 23	587,149	486,017	495,666
Nov. 16	587,822	571,436	591,335
Nov. 9	594,781	586,183	605,353
Cumulative total, 49 weeks	27,453,180	27,352,177	27,112,470
Estimated Revenue ton-miles (millions) 49 weeks	591,500	563,900	533,900

PIGGYBACK CARLOADINGS.—U.S. piggyback loadings for the holiday week ended Nov. 30 totaled 12,989 cars, compared with 14,315 for the corresponding 1962 week. Loadings for 1963 up to Nov. 30 totaled 739,756 cars, compared with 655,666 for the corresponding period of 1962.

IN CANADA.—Carloadings for the seven-day period ended Nov. 21 totaled 76,438 cars, compared with 75,700 for the previous seven-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada		
Nov. 21, 1963	76,438	23,251
Nov. 21, 1962	66,537	22,520
Cumulative Totals		
Nov. 21, 1963	3,245,044	1,038,093
Nov. 21, 1962*	3,201,226	1,065,791

*Revised

New Equipment

FREIGHT-TRAIN CARS

► *Burlington.*—Announced plans for the acquisition of 1,575 roller-bearing freight cars of specialized design in 1964. The car program will be the second biggest in the road's history.

► *Chicago Great Western.*—Ordered 50 70-ton, 2,003-cu-ft capacity covered hoppers with roller bearings from Bethlehem Steel for delivery in April 1964.

► *Frisco.*—Ordered 50 100-ton, 3,000-cu-ft-capacity covered hopper cars from Thrall and 50 100-ton, 4,500-cu-ft-capacity covered hoppers from Pullman-Standard, for delivery in the first quarter of 1964, at a total cost of approximately $1.3 million.

► *Illinois Central.*—1964 equipment-acquisition program will involve expenditure of $27.2 million for locomotives and freight cars, out of a total $34-million capital-spending budget. Freight-car program totals 2,227 units: 450 70-ton box cars (200 with single doors, shock-control underframe, damage-prevention devices and lading anchors; 150 insulated cars with plug doors, shock-control underframe and load dividers; 100 single-door cars with standard underframe and damage-prevention devices); 300 70-ton covered hopper cars; 840 70-ton open-top hopper cars; 75 70-ton flat cars; 100 70-ton covered gondolas; 50 70-ton drop-end gondolas; 12 100-ton gondolas, and 400 70-ton pulpwood cars. All but the covered hopper cars, gondolas and 300 of the pulpwood cars will be built at Centralia, Ill., company shops.

►*Louisville & Nashville.*—Ordered 1,000 80-ton hopper cars from Pullman-Standard for delivery next May, June and July. Cars will be equipped with roller bearings and will make extensive use of high-tensile steels. The new order brings to 2,450 the number of hopper cars to be delivered to L&N in 1964. L&N also ordered 350 100-ton, 3,650-cu-ft capacity covered hoppers with tear-drop design and elongated hatches from ACF, for delivery beginning in April.

PASSENGER-TRAIN CARS

► *Burlington.*—Will purchase six stainless steel, double-deck suburban passenger cars in 1964.

► *Milwaukee Road.*—Will order 22 stainless steel bi-level commuter coaches for delivery beginning in autumn of 1964. The order will enable Milwaukee to complete a suburban-service modernization program—featuring push-pull operation—which was begun in 1961.

LOCOMOTIVES

► *Illinois Central.*—Will acquire 12 GP28 general-purpose diesel-electric units and two EA9 passenger locomotives from EMD in 1964.

► *Puerto Rico.*—The Ponce & Guayama has ordered one 45-ton diesel-hydraulic locomotive from Plymouth Locomotive Works for delivery this month. The locomotive will be equipped with two General Motors 12V-71 diesel engines and with Allison 950 hydraulic torque drive.

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Steel makers see bigger car market

Specialized freight cars, the use of 'exotic' metals and the potential of containers are making steel men more optimistic.

Steel producers are pointing to railroad spending programs and equipment trends as signs that the industry is emerging again as a major domestic market. The move to modernize the fixed plant and car fleet has steel officials talking in bullish terms about the rails' potential as a market for 1964 and the years to follow.

Two of the developments which have contributed to steel's enthusiasm are the trend to bigger and more specialized freight cars and a growing acceptance of the so-called exotic metals. Enthusiasm for the bigger cars is easy to understand. Much more steel is going into the 70-ton and 100-ton cars being ordered than went into the smaller cars.

● **Good carbuilding market.** Railroads have been stepping up the pace of their car purchases, causing one steel producer to predict that "an average of 50,000 new freight cars will be built each year" for the next five years, "requiring more than a million tons of finished steel. In addition, about 500,000 tons of finished steel will be needed each year for railway car repairs."

Inland Steel Company's D. L. Brewster, general sales manager, says, "The railroad equipment market will be substantially better. Transportation costs are such a factor in our economy that we try more and more to reduce them. For the long range, this is going to mean a good carbuilding market."

Almost as important as the amount of steel that's going into the new cars is the kind of steel being used. Steel producers for years have been trying to sell high-strength, low-alloy steels as a replacement for carbon steel in freight cars. Now, the so-called exotic steels are finding their way into new freight cars.

● **New steels cost more.** Two of the advantages obtained from the alloy steels are weight reduction and greater resistance to corrosion. The drawback is price. The base price of the alloy steels ranges as high as $2.50 (cwt.) more than the base price of carbon steel. That price difference, railroad purchasing and mechanical officers say, has to be justified by weight reduction (when needed), longer car life and lower maintenance costs.

Bethlehem Steel's D. R. Pratt, manager of railway and industrial car sales, looks for "an increased use of high-tensile, low-alloy steels." Santa Fe's A. V. Sorenson, assistant general purchasing agent, comments that "the trend toward bigger, heavier freight cars has resulted, to some extent, in a better market for the high-strength, low-alloy steels, and if that trend continues, I would think the market would get even better."

"Years ago," states H. K. Lanning, Santa Fe mechanical assistant, "we were using none of the alloys. Now we're using them quite a bit—for particular types of cars and particular parts of cars. More of them are available now, and we're learning more about them."

With the bigger cars now being built, says Mr. Sorenson, "there are some cases where weight becomes critical, and the alloy steels give you a margin that carbon steel can't."

● **Is weight a problem?** Some mechanical officers, however, are cautious about the weight advantages gained by using the exotic steels. Weight reduction is "a factor in the decision to use the alloy steels," declares Mr. Lanning, but he adds, "the savings [in weight] are not as great as some steel people would have us believe. In some places there is no advantage to using alloy steel."

L. H. Schierbecker, Illinois Central's general superintendent, car department, agrees: "I'm not convinced that weight reduction is a problem or a need. There's a serious question about whether these steels should be used in box cars. They increase the cost of a car, and that increased cost has to be justified."

IC has not used the alloy steels to any great extent but is taking another look. IC is interested in the anti-corrosive characteristics of the special steels. "We consider that most important in coal-handling equipment," states Mr. Schierbecker. "We've definitely decided we're going to use Cor-Ten extensively in any new hopper cars we build, but there are still some things we're debating, such as whether we

want stainless steel slope sheets." The whole range of questions involving the use of special steels is being studied by IC's engineers.

• **Upward trend started.** Steel producers are confident that railroads will continue to increase the quantity of their steel purchases. Railroads took delivery of 2 million tons of steel in 1962, a 27% increase over the 1961 figure of 1.6 million tons. And while total shipments of steel have been increasing, the railroads have continued to push their share of the total upward—from 2.5% of 66 million tons shipped in 1961 to 3% of 70.5 million tons shipped in 1962. Steel producers estimate that railroads will receive 3.1% of 77.6 million tons expected to be shipped this year.

About one-third of the money railroads spend for fuel, materials and supplies consistently goes for steel products. In 1962, the figure was $375 million of a $1.3 billion total. The $375 million bought rails, axles, bolts and nuts, hand tools and machinery, machine parts, pipe and plumbing fixtures. An even bigger percentage of expenditures for capital improvements finds its way to the steel industry's cash registers.

"All forecasts," says D. W. Roberts, Armco Steel assistant to vice president, distribution, "indicate to us that the railroad market for steel should show continued improvement in 1964. This should come about through continued and increased purchases of steel, not only for new equipment but for maintenance of way. It is our sincere hope that our estimate of improved carloadings will permit earnings to be of such a nature that these projected modernizations will continue."

• **Potential in containers.** Among the things Mr. Roberts feels has strengthened the market: "Greater use of corrosion resistant high-strength, low-alloy steels; new wheel plant facilities; development of reflectoscope inspection to improve quality of the locomotive wheel and new high-strength steels—hot rolled steels with yield strengths over 50,000 psi and heat treated constructional steels with yield strengths over 10,000 psi."

Bethlehem's Mr. Pratt feels "there will be a growing market in the demand for integral and unit trains. Also, the railroads will be forced to rebuild their freight-car fleet, which has been dwindling faster than replacements have been made. Right now, piggyback offers the biggest market, but we feel the future will be in containers. We are vitally interested in this market."

While the market potential presents a bright picture, the steel industry has reason to look over its shoulder: Aluminum producers are looking for a share of the market. "Now they're getting interested in freight cars, they're making studies, developing better techniques for welding and fabricating, which has been something of a problem," notes Santa Fe's Mr. Sorenson.

The market, for the present, belongs primarily to steel. If railroads were to consider switching to aluminum, their shops would have to tool up for it and change assembly practices. Says Mr. Schierbecker: "It would cost a considerable amount of money, and it would be a question of whether the volume would justify it."

CN's competitive stand

The positive role of the Canadian National in the Canadian transportation picture was emphasized by CN Chairman and President Donald Gordon, in a talk before the Transportation Club of Toronto.

In view of the interest in findings of the MacPherson Commission, now under study by Parliament, Mr. Gordon commended the report's call to restore the proper balance between Canadian transportation modes by endorsing more private competition.

The special nature of the CN, he said, is not always grasped by extremists: "At one extreme, there are those who favour government ownership of all or certain industries as a matter of principle . . . At the other extreme there are people who hold that it is wrong for publicly owned facilities to compete actively with private business."

Stressing his belief that "government can accept responsibility while interfering as little as possible with individual freedom and enterprise, Mr. Gordon looked to adoption of the main findings of the MacPherson Report, since "Canadian National can best serve this nation if it is free to act, in its management philosophy and its operations, as an efficient business organization." A corporation such as the CN, he said, should be measured by the same yardstick as any competitive enterprise: "ability . . . to show financial profit."

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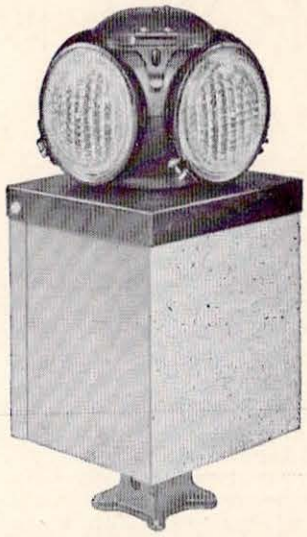

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PEOPLE IN THE NEWS

ASSN. OF INTERSTATE COMMERCE COMMISSION PRACTITIONERS.—Walter J. Myskowski, Washington, D.C., attorney, has been elected secretary, Assn. of ICC Practitioners, succeeding the late **James K. Knudson.**

CANADIAN NATIONAL.—Arthur E. Boutin appointed special assistant to vice president—accounting and finance, Montreal, Que. Mr. Boutin was formerly director of audit services, Quebec Region, Department of Finance, Government of Canada.

CHESAPEAKE & OHIO.—T.P. Hackney, general superintendent car department, Huntington, W.Va., has been assigned to work with **K.T. Reed** (general manager motive power and equipment, **Baltimore & Ohio**—C&O) in C&O-B&O mechanical department coordination. Mr. Hackney will continue to have responsibility for program car work at Russell and Grand Rapids car shops. **E.E. Slack,** staff assistant to chief mechanical officer, will be responsible for other general car department matters for the duration of Mr. Hackney's assignment.

N.G. Halpern, general staff officer, finance and accounting departments, Cleveland, appointed assistant to vice president, reporting to **Owen Clarke,** vice president. At the request of **John E. Kusik,** senior vice president, finance and accounting, Mr. Halpern will continue to have responsibilities in the finance departments as chairman—salary and personnel committee.

CHICAGO & NORTH WESTERN.—Raymond J. MacCarthy, general freight agent, Green Bay, Wis., advanced to the new post of assistant traffic manager there. **Omer T. Tormoen,** general freight agent, Duluth, Minn., succeeds Mr. MacCarthy. **Edwin M. Upland,** general grain agent, Chicago, appointed freight traffic manager-grain sales and service there. **Charles T. Fitzgibbon** named division freight agent, Sioux Falls, S.D. **Ben F. Rice** appointed general agent, Birmingham, Ala.

DEFENSE TRAFFIC MANAGEMENT SERVICE.—Capt. John Patrick Wolfe, U.S. Navy, appointed chief, Defense Supply Agency staff transportation group, in office of Maj. Gen. **Rush B. Lincoln, Jr.,** executive director for transportation, DSA, and commander of DTMS.

FRISCO.—Henry B. Stierwalt, assistant to general manager, Springfield, Mo., appointed assistant to vice president-operation, to succeed **N.A. Weaver,** retired (RA, Dec. 2, p. 34).

George J. Pruneau named attorney, St. Louis.

ILLINOIS CENTRAL.—Arthur M. Dickerson, assistant superintendent, St. Louis division, Carbondale, Ill., transferred to the Illinois division, Champaign, Ill., to replace **James F. Reents,** named to the new post of staff assistant-operations, Chicago. Mr. Dickerson's successor is **Harold G. Mullins,** trainmaster, Iowa division, Waterloo, Iowa, who in turn is replaced by **James M. Law,** transferred from the Kentucky division, Louisville. **Raymond L. Warren,** trainmaster, St. Louis division, replaces Mr. Law. **George W. Cox, Jr.,** trainmaster, Mississippi division, Vicksburg, Miss., named to replace Mr. Warren with headquarters at Fulton, Ky. **Carlos L. Colyer,** assistant trainmaster, Baton Rouge, La., succeeds Mr. Cox. **Bobby J. Shaver,** trainmaster, Illinois division, Mattoon, Ill., transferred to the St. Louis division, East St. Louis, Ill. Mr. Shaver's successor is **Gerald B. Hester,** assistant trainmaster, Kankakee, Ill. **Ivan B. Hall,** assistant trainmaster, East St. Louis, Ill., appointed trainmaster, Tennessee division, Memphis. **Jerry A. Dumas,** trainmaster, Cleveland, Miss., named trainmaster, New Orleans, to replace **Marvin E. Corzine,** named assistant superintendent, Louisiana division. **N.L. Meadows, Jr.,** assistant trainmaster, Kentucky division, succeeds Mr. Dumas. **Loren T. Coyle,** superintendent of freight service, Markham Yard, Chicago, named to the newly established position of staff assistant, Operating Department, Chicago. **Joseph P. Haines,** trainmaster, Markham Yard, succeeds Mr. Coyle, and in turn is succeeded by **Chris W. Damiano,** assistant trainmaster, Council Bluffs, Iowa.

Raymond M. Vander Heyden, general agent, Cleveland, becomes general traffic agent, St. Louis, to succeed **Robert L. Seitz,** resigned. Mr. Vander Heyden's successor is **Michael V. Bercik,** general agent, Buffalo, N.Y., who in turn is succeeded by **Robert P. Adams,** district traffic agent, Bloomington, Ill., **Sam T. Boleware,** traffic agent, Memphis, replaces Mr. Adams.

Edwin L. Marsalis, assistant superintendent of the Car Department, Chicago, promoted to superintendent of the Car Department.

INTERSTATE COMMERCE COMMISSION.—Howard L. Domingus appointed assistant director, Bureau of Accounts, succeeding **Bernard V. Moffett,** retiring Dec. 29. Mr. Domingus was formerly assistant director and acting chief, Section of Valuation.

LOUISVILLE & NASHVILLE.—Wayne R. Lindahl, former assistant auditor of revenues, **Illinois Central,** Chicago, appointed to the newly created post of auditor of revenues, L&N, Louisville, Ky. Mr. Lindahl will be responsibile for all items relating to freight, passenger, station and agency, and overcharge claim accounting, reporting directly to the comptroller.

Richard A. Stanley, Gulf Coast traffic manager, elected resident vice president for New Orleans and the Gulf Coast area, with headquarters remaining at New Orleans (RA, Dec. 2, p. 35).

NEW YORK CENTRAL.—R.I. Hunter, district claim agent, New York, promoted to assistant chief claim agent there, succeeding **J.C. Lockwood,** who retired Nov. 30 after more than 41 years of continuous service.

NORTH LOUISIANA & GULF.—M.C. Walker named auditor and general freight agent, replacing **J.F. Davis,** who retired Sept. 30.

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Supply Trade

Thompson A. Nooner has been named director of market service, **General Railway Signal Co.,** unit of General Signal Corp. Mr. Nooner will report to **Louis T. Freed,** vice president sales. For the past 12 years, Mr. Nooner has been associated with the **Railway Progress Institute,** most recently as vice president—secretary.

Guy D. Larrabee, general traffic manager-sales, **Seatrain Lines, Inc.,** Edgewater, N.J., has been elected vice president-sales. Previous railroad company affiliations were with the Rutland, the Rock Island and the Minneapolis & St. Louis.

OBITUARY

Kenneth A. Craig, district manager for the **SUPER Co.** of Fort Worth, Tex., died Nov. 20 in Springfield, Mo.

George G. Kottenstette, 71, retired general passenger agent, **Wabash,** died Dec. 6 at Decatur, Ill.

Laurence B. Stanton, 65, freight traffic manager, **Illinois Northern,** died Dec. 1 in Wesley Memorial Hospital, Chicago.

LETTERS

Jacksonville, Fla.

To the Editor:

Your article "System-wide EDP on tap for ACL" which appeared in the December 2 issue of Railway Age has been noted with interest.

The "System Concept" of data processing on Coast Line is so broad in scope I realize that an article attempting to cover the many areas of interest is difficult to write. I would like to congratulate your staff for the job they did with this story.

There is, however, one feature of the article that is completely in error. You incorrectly indicate that the idea for Coast Line's "System Concept" of data processing did not germinate until IBM announced its new computer and data communications system known as TRAIN. Actually, a Data Processing Executive Committee was appointed by W. Thomas Rice, president of Coast Line, on February 2, 1962. Coast Line's "System Concept" of data processing was developed by that committee long before either the IBM 1050 machines or TRAIN was announced. During the course of our study, we investigated the capabilities of many different computer manufacturers and did not finally settle on IBM equipment until the latter stages of our study. Neither were the individual members of the Data Processing Committee used in specialized fields of endeavor during the course of the study.

It may well be that IBM's TRAIN concept is a by-product of Coast Line's study, since the concept was made known to them when investigating the hardware requirements, but I want to make it perfectly clear that the system of data processing we propose to adopt is a product of the imagination of Coast Line personnel and not IBM.

Thank you for your interest in Coast Line's progress in the data processing field and the nice story you published.

L. H. Scott, Jr., Manager, Special Studies, Atlantic Coast Line

Pomona, Calif.

To the Editor:

It was interesting to note, in the October 28 issue of Railway Age, page 47, the article, "Skill from Schooling," and the comments that were made by rail union leaders and railway management.

We here at Marquardt have invested in the future of rail transportation in this country and believe that electronics will be the next major economic breakthrough in train operation and safety. Our short venture (18 months) in trying to serve railroads' wants and needs in this field indicates that a similar situation to that referred to in your article exists in the signal and communications field, as well as the mechanical field. This does not imply that the signal and communications people do not understand electronics or "state of the art" today. On the contrary, our field engineers report that many signal engineers are qualified in this area. However, the vast R&D programs in "state of the art" make it difficult for any engineer, military or otherwise, to keep pace in this field. We here at Marquardt have in-house schooling for our young engineers and technicians to keep them informed of new developments and techniques unknown in the past month.

We are in the process of inaugurating an educational program pertaining to "Electronics in Railway Use" which was designed around the use and maintenace of our railway equipment. Our recent thinking in this regard is to offer this schooling or training not only to our customers but to any interested railroad man that might want to attend. The only problem would be the implementation of the program and to what extent or level. In summation, we at Marquardt would like to offer our talent and facilities to the industry to help obtain a better understanding of the "state of the art."

We would appreciate getting the ideas of interested persons as to the feasibility of such a program. The only cost to those attending would be their transportation, meals and lodging.

W. W. Hutchinson, Manager, Marketing, The Marquardt Corp.

PROGRESS REPORT

SPENO

Here are the up-to-date facts on the SPENO Ballast Cleaning and the SPENO Rail Grinding Services.

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YOU OUGHT TO KNOW

Zone commuter operations in the New York suburban area have been proposed by New York Central, to be effective Jan. 22, 1964. The road applied to the state Public Service Commission for permission to establish fares on a zonal basis between Grand Central Terminal and White Plains North and Tarrytown, on the Harlem and Hudson Divisions, respectively. A zonal operation would then be possible which, according to William R. Main, the Central's assistant vice president —passenger sales and service, would "reduce travel time and improve utilization of both our equipment and manpower."

Transit plans for the District of Columbia got a setback last week when the House, by the overwhelming vote of 278 to 76, sidetracked the bill which would have authorized the so-called "bobtailed" system for the District. That contemplates construction of about 23 miles of rail lines, including a subway, at an estimated cost of about $40 million. It got the "bobtailed" label because it is a proposed substitute for the $793-million system, with 83 miles of rail lines including subways, which was recommended by the National Capital Transportation Authority and endorsed by the late President Kennedy. The House's adverse action on the "bobtailed" plan was a vote to send the bill back to its committee on the District of Columbia, where it is apt to remain pigeonholed.

Permission to reduce commuter fares for South Bend, Ind., passengers has been requested by the Chicago South Shore & South Bend. South Shore says it is asking ICC approval to reduce fares between South Bend and six cities to aid workers who will be affected by the shutdown of the Studebaker Corp. automobile production plant in South Bend.

An order backlog of 8,000 cars, valued at approximately $120 million, will be carried into 1964 by Pullman-Standard, reports George L. Green, the company's vice president—marketing. The backlog is the highest in six years.

Intercity truck tonnage in this year's first three quarters was 4% higher than in the corresponding '62 period, reports American Trucking Associations.

Railroad employees will be insured by the railroads against all on-the-job injuries if a United States Supreme Court decision announced last week becomes a precedent. That's the warning of Justice Douglas, who filed a dissenting opinion to which Justice Harlan subscribed. The court's 7-to-2 ruling reinstated a $10,000 jury verdict for a Denver & Rio Grande Western employee, who had been frostbitten. The decision reversed the Utah Supreme Court which had set aside the jury finding of negligence by the railroad. "Unless employers are to become insurers of these industrial accidents," dissenter Douglas said, there was "no evidence of negligence in a society where everyone is presumed to have enough sense 'to come in out of the rain'."

A seven-and-one-half-hour long argument on its proposed piggyback rules was heard last week by the ICC. That put before the Commission for decision the Ex Parte 230 case in which examiners Harold Boss and Richard S. Ries have advised elimination or modification of those of the proposed rules which might inhibit further development and growth of piggybacking on pretty much the present basis. While the railroads' general position is that the commission-proposed rules are all "substantially unnecessary," there appears to be nothing in the examiners' proposals which would be very difficult for the industry to live with. (RA, Sept. 2, p 19.)

Grand Trunk has a one-word description of its 1963 experience in the auto-rack business: "Sensational." In '62, GTW's first full year handling finished automobiles on racks, the road picked up 4,000 carloads. But in 1963—a 150% increase. H. A. Sanders, GTW vice president and general manager, estimates that his road will hit the 10,000-carload mark in finished autos before the year ends.

Legislation will be introduced in Canada's House of Commons sometime after Christmas to implement major recommendations of the MacPherson Royal Commission on Transportation (RA, Dec. 20, 1962, p. 9). Fate of the legislation is regarded as uncertain by seasoned Canadian observers, since Prime Minister Pearson's government does not command a clear majority in the House. The MacPherson Commission has recommended that the railroads be given more freedom to set freight rates, the establishment of an authority to supervise abandonment of uneconomic branch lines, and a program of federal payments to the CN and CP to make up passenger deficits during the next five years.

The Milwaukee Road plans to apply for "modest general suburban fare increases" which, for flash-type ticket users, will amount to an additional five cents a ride. President William J. Quinn says the operation is still showing a deficit despite increases in patronage (due in part to the termination of service last January on the paralleling Chicago North Shore & Milwaukee).

Discontinuance by the Soo Line of its two passenger trains on the 560-mile line between St. Paul, Minn. and Portal, N.D., was approved by the ICC. The road agreed, however, to provide mixed-train connecting service to Portal via Glenwood, Minn.

Two-in-one

The next two issues of Railway Age will be combined into a single issue, to be dated Dec. 23/30 and mailed on Dec. 27.

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Sell the TVA—well, why not?

Where's the justice in making taxpayers pay other people's electric bills—and an even larger share of their transportation costs?

Discussing Senator Goldwater's suggestion that it might be well to sell the Tennessee Valley Authority to private interests, Editor William F. Buckley of National Review magazine, had this to say (in part):

"To the extent that consumers of electric power in the Tennessee Valley pay less for that power than the cost of producing it (include: interest, taxation), they are being subsidized by taxpayers from the other states of the union, and preferential arrangements in behalf of one section, at the expense of others, are not justified in a democracy. . . ."

Senator Goldwater and Editor Buckley are, of course, on the right track in their attitude to TVA. So is the private electric power industry when it opposes the provision of electric power by the federal government—through the TVA and otherwise—with substantial contributions from federal taxpayers. Be it remembered, however, that people are cautioned on the highest authority lest they *"strain at a gnat and swallow a camel."*

Specifically, in transportation, the federal government is doing far more to subsidize some citizens at the expense of others than it is doing in providing electric power, either through the TVA or all the rest of its electric power projects.

For 1961, the Transportation Association of America reports that government (federal and local) expenditures on rivers and harbors were $583 million. And, of course, none of this huge expenditure is paid by the operators of barges and ships who use river and harbor facilities. Surely here is, as Mr. Buckley puts it, an instance where consumers in some areas are benefiting from "preferential arrangements in behalf of one section at the expense of others."

Indeed, in the case of the TVA itself, it does charge something for the electric power it produces —but it permits the use of the costly facilities it has provided for barge transportation at no charge whatsoever.

In fact, much of the mileage of improved inland waterways that the federal government has built and maintains is utilized by the private electric power industry—to get in its fuel, in substantial part at the taxpayers' expense. In other words, the private electric power industry—which properly complains at the competition it is getting from subsidized federal power—is itself the complacent beneficiary of governmental assistance in the payment of its transportation costs.

As to highways, the Transportation Association reports expenditures of $11,491 million in 1961, and reveals that, of this total, $8.4 billion (73%) was covered by imposts on highway users. In other words, users of highways failed by 27% to pay total highway expense—which means that this 27% necessarily became a charge on other taxpayers. Thus, it would appear that highway transportation is subsidized to the tune of $3 billion. Compared to such figures as these, the subsidizing of electric power users by government, either through TVA or otherwise, is the merest chicken feed.

Moreover, the difference between the fees highway users pay and total highway expenditures is only part of the story of highway subsidies—because there is a large degree of subsidization involved in the inequitable manner in which highway fees are levied on different users. For one thing, charges on heavy trucks are notoriously low in relation to the costs they occasion. And the charges on operators of lighter vehicles are correspondingly and disproportionately high.

Furthermore, the gigantic federal interstate highway system is being financed in a grossly inequitable manner—namely, largely through the federal levy on motor fuel. This, of course, means once again that large vehicles are paying much less than their proportionate share. Furthermore, the traffic in congested areas that benefits most from these new federal highways does so through avoidance of delays, with the consequent savings in fuel consumption (and fuel fees).

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Thus it is that, in a given locality, the traffic that gets the benefit of a new highway costing multiple millions of dollars actually gets a reduction in the fees it pays, because its fuel consumption is reduced. Of all the cockeyed economics in the bizarre history of highway finance, the financing of the interstate highway system merits the top award.

And, in addition to all this government aid to waterway and highway transportation, there is a billion of tax money being laid out on air transport—retrieved from users only in small part.

We hope that Senator Goldwater and Editor Buckley will keep looking for instances where government is subsidizing some citizens for the benefit of others. If they do, they will detect a far larger departure from sound economics in governmental dealing with transportation than they have discovered in the sector of electric power.

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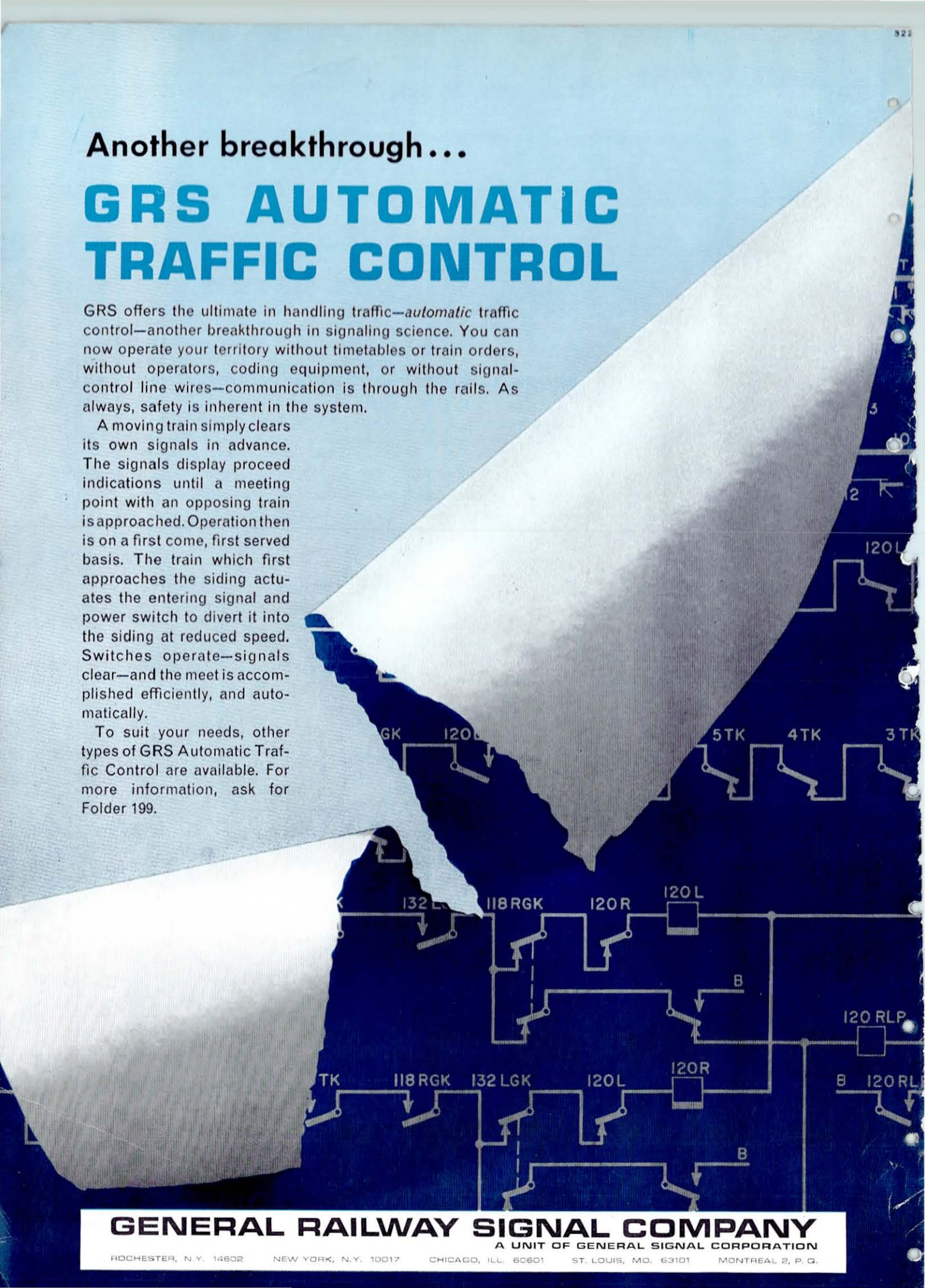

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